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ABSTRACT

This manual provides a step by step guide, delineating the process by which an external agency can work with State Education Agencies (SEAs) to help increase the participation of ethnic minorities and women in educational research and development and management. Based on a model program designed and implemented by Research for Better Schools (RBS), the manual recommends specific practices for developing leadership skills in these target groups. The program is organized into three stages, parallel to the manual's three major chapters. Stage one provides the initiating agency with a mechanism for establishing positive working relationships with the State, as well as for determining specific needs to be addressed by the project. Stage two describes procedures and activities necessary for creating awareness, training, and providing technical assistance. Effective follow up tactics are also addressed in this stage. Finally, methods to be used by an initiator to ensure an ongoing program autonomous of the initiating agency are addressed in the third stage. Extensive appendices to the volume include journal articles, correspondence, and needs assessment and other technical assistance materials. (AOS)

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A MODEL TO HELP SEAS INCREASE THE PARTICIPATION OF MINORITIES AND WOMEN IN EDUCATION R&D LEADERSHIP AND MANAGEMENT

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November 1981

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UD 022 620

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INTRODUCTION

Although education and the social sciences attract women and members of minority groups more than any other dircipline (National Center for Educational Statistics, 1977), there is a paucity of minorities and women in leadership and management in education research and development (R&D). Since the early 1970's there has been a concerted effort within the profession to conduct research efforts that will document this imbalance and seek out the variables affecting this lack of participation. Education researchers are now developing and testing promising projects and programs for increasing the participation of these groups. Their experiences and findings contribute significantly to the literature and impact on new programmatic efforts and on the awareness of all those in education R&D of the professional status of minorities and women.

There are several models currently in practice to increase the participation of minorities and women in education research and development. The major federal effort to this end is the National Institute of Education's (NIE's) Minorities and Women's Program. Its funded projects have provided training and advanced study for more than 3,000 minority group members and women since its inception in 1976 (National Institute of Education, 1980). These programs have been directed to persons at every academic level: research assistant, undergraduate, graduate, and post-doctoral. Their time lines run from short weekend seminars to more intensive programs lasting from a few months to three years. The emphases of these programs include career awareness, pre-professional training, course work, and/or supervised participation in research (e.g., internships).

The model being presented here is unique in its approach. The target audience is the practitioner-in-the-field who is found in the State Education Agency (SEA), the Local Education Agency (LEA), or an institution of higher education. The educational level of the practitioner is not a qualification for participation. The timeline for participation is determined by the participants and their self-expressed needs.

This model is based on the concept that opportunities must be made available by one's employer and understood and experienced by practitioners in order to reduce the barriers that have prevented full, professional participation by minorities and women in education research and development. The activities designed to surmount the barriers are numerous and are described in detail. Many of the vehicles to further professional development that have been incorporated in this model have been identified and designed as a function of the unfolding of the Research for Better Schools project. Others have been incorporated from existing programs or suggested by the literature in the field. The entire program represents the best that is currently available.

HISTORY

In December 1979, Research for Better Schools, Inc. (RBS), a private, non-profit educational laboratory located in Philadelphia, began work on a three-year grant from the National Institute of Education's Minorities and Women's Program to develop a model that would delineate the process by which an external agency (such as an educational laboratory or university) could work with one or more State Education Agencies (SEA) to help increase the participation of minorities and women in education research and development (R&D) leadership and management.

RBS was to specify this model by identifying those practices and procedures which were the most successful in the tri-state area of Pennsylvania, New Jersey, and Delaware.

As planned, the first year would involve "start-up" activities culminating in the establishment of positive working relationships between RBS and those in the states working with the project. The second year was planned for full implementation of the project activities. The third year was planned for institutionalizing the project within each state and allowing RBS time to document the successful practices experienced during each of the three years. At the end of the three-year period, a manual describing the RBS model was to be available for those agencies that may wish to act as an initiating agency in their state/region and replicate the procedures specified.

The first year went as planned. During the second year, because of federal budget limitations, the grant was shortened from three to two years. Therefore, many of the activities planned for year two were conducted during the first half of that year. During the second half of year two, the project began focusing on the activities planned for year three. This manual documents the two-year RBS effort and describes the model as best as possible after only two years. The field testing and review process originally planned have not been accomplished; however, the reader can be assured that great care has been taken to include as much information as is believed would be necessary for an agency to replicate this model.

PROGRAM ORGANIZATION

This program delineates the process by which an external agency (such as an educational laboratory or university) can work with one or more State Education Agencies (SEAs) to help increase the participation of minorities and women in education R&D leadership and management. For purposes of this program, education R&D includes but is not confined to research, development, dissemination, utilization and evaluation.

This manual is written directly for the prospective user - an agency other than an SEA that often assumes the role of "initiator" of programmatic change activities within a stage or region. This is a "how to" manual which specifies the steps Research for Better Schools (RBS) recommends and the successful practices that RBS identified following implementation of the model program. Also included are explicit examples of products from the RBS project, e.g., news releases, published articles, outlines of training sessions, and letters.

This program is organized in three stages and this manual is organized into three chapters, one for each stage. Each stage represents a segment of time within the chronicle of the program and will be completed in varying lengths of time by those using the program. It is important, however, that each stage be completed before the next begins.

Stage One: Establishment

This stage provides the initiating agency with a mechanism to establish positive working relationships within the state(s) and establish the specific needs the project should address within the state(s). The

initiating agency will identify the structure of the State Education Agency, the needs of the target audience, and the most efficient means of communication between the two and the initiating agency. The composition of this information will help set the stage for effective change and productive relationships.

Stage Two: Implementation

This stage describes the procedures and activities which can be used to ensure successful implementation of the three major program areas: creating awareness, training, and providing technical assistance. There are specific examples of communiques and suggestions on their best employment. Effective tactics for follow-up are discussed and illustrations are included.

Stage Three: Institutionalization

This section provides methods to be used by the initiating agency to ensure an on-going program in the state(s) when that agency is no longer the driving force behind the project. Methods for shifting roles in order to sustain an on-going program are presented. Information regarding the continuing of networking and the re-evaluating of needs are discussed. Attention is given to strengthening technical assistance resources and product development. The key to institutionalizing the program lies in an effective dissemination system that is in place in the SEA.

Before beginning this program, it is recommended that you read the three articles that can be found in Appendix A. These articles more clearly define the problems surrounding the participation of minorities and women in education R&D management and leadership and will be an invaluable source for future reference.

STAGE ONE: ESTABLISHMENT

The first stage of this program involves the establishment of relationships with SEA personnel and the establishment of the needs this program can address within the state(s). In the sections that follow, the steps of this process are systematically described, the rationale presented, and important factors discussed.

Establishing Relationships

A clearly written description of the program, including statements describing the goal and objectives of the program, its significance, a definition of the target audience, and the activities to pursue the program is the most important ingredient to the establishment of the program. In particular, proposed activities must be enumerated and explained so that the prospective participant (the SEA) is clear about the resources that are available from the initiating agency and the resources that the SEA will be asked to commit to the program. This project description will then serve as the basis for all communications: clarifying and interpreting the goal and objectives of the program to SEA personnel and to newsletter editors, responding to telephone inquiries, or answering requests for technical assistance. *(See Appendix B for the RBS project description.)*

Chief State School Officer(s). The initiating agency sets up a meeting with the chief state school officer and, using the program description, completely describes the proposed program. Personnel from

the initiating agency, listening well to the chief state school officer, can determine how the program may be adapted to fill the unique needs of the SEA. Information retrieved during this process should answer the question, "How do SEA and state characteristics influence the proposed program characteristics?"

There are two major factors in considering this question. One is state size. The larger the number of people in the SEA, the more formal the SEA organization and the more complex the chains of supervision will be. The second factor is the existence of a linkage system. Some states will have an existing structure to provide liaison and dissemination services. Other state(s), regardless of their size, may have to develop that structure.

SEA Liaison(s). After instilling confidence in the initiating agency, the proposed program, and the proposed program personnel, an individual from the SEA should be appointed by the chief state school officer to the program. It is important that this happens as early as possible in the program.

Originally, the SEA liaisons to the RBS project were assistants to the chief state school officers. As these persons attempted to function as the link between the SEA and the project however, the demands on their time and their distance from those within the SEA who would actually work with the program, necessitated the identification of other individuals to fulfill this role. In each state, the organizational unit, position, and relative authority of the individual finally selected varied greatly; however, the procedures for identification of the SEA liaison were the same. (See Appendix C for correspondence from this process in one state.)

There are several factors which should guide the chief state school officer in choosing a liaison because this person will affect the development of the program within the SEA and the strength of the dissemination system created. The "level" of the liaison within the SEA hierarchy, the job function of the liaison, the amount of time the liaison can spend with the program, the liaison's previous experience with the issues, and the liaison's length of tenure with the SEA are all significant factors.

To begin with, the closer the placement of the liaison to the top management of the SEA, the greater the support for the development and institutionalization of the program and its dissemination system. Such placement provides the project with high levels of visibility and implies executive support of the program's goals and commitment to the program's success. High placement within the organization also enhances successful coordination with the dissemination activities of other programs.

There should be as close a match as possible between the liaison's formal job function and the objectives of the program. The functional position may reside in any one of several areas, for example, research, equity, or personnel; however, the job position which allows the greatest degree of internal and external coordination activity will be the most effective.

The third factor, the amount of time the liaison has been directed or can give to the program, is also important. Obviously, the more flexible the liaison's time commitments, the greater the possibility for successful completion of program goals.

The fourth factor is the amount of training or prior experience the liaison has had in the topics and techniques of the program. The liaison's personal interest in the program may add to personal commitment; however, other qualifications should be given greater weight in determining the appointment. The more familiar the liaison is with education R&D, the concerns of minorities and women in leadership and management, and networking and dissemination strategies, the more quickly the liaison will be able to contribute productively to the program.

The final factor is the length of tenure the liaison has had within the SEA. The longer the tenure, the better known the liaison and the more familiar the liaison will be with the formal and informal communications process and the SEA political structure.

The RBS project had three liaisons, one in each state. Each differed in organizational level, job function, amount of available time, familiarity with the subject, and length of tenure.

In Pennsylvania, a state with a large central education agency, the liaison was from the Office of Personnel Administration and Field Liaison. The position, Executive Assistant to the Director, coordinated internal department-wide activities and liaisoned with external agencies impacting on education. This placement was positive in that the liaison had ready access to the chief state school officer, field agencies, and had enough authority to implement program activities. A thorough knowledge of the agency and its employees was also an asset.

In New Jersey, the liaison was a member of the staff of the Bureau of Planning. The liaison's responsibilities included coordinating the administration of federal programs and research and development. Because of those functions, she had access to a wide network within the SEA and the state. In addition, this liaison had a strong personal interest in minority and women's issues. The program in New Jersey was implemented through an extensive informal network; however, for additional effectiveness, it is suggested that staff directly and primarily responsible for equity issues be formally involved at early stages in the establishment of the program.

In Delaware, a state with a small central education department, the SEA liaison was in the Instructional Services Division of the Human Relations Office. Extensive knowledge of equity issues and close proximity to persons with similar responsibilities was a strong asset of this liaison's position.

The program expectations held by the SEA liaison(s) and the initiating agency are areas which must be discussed and defined early in the relationship(s). Also, the SEA liaison needs clarification regarding the responsibilities of that role as it relates to coordination and communication between the initiating agency and the SEA, and the conduct of program activities.

It is recommended that four meetings be held annually between the initiating agency and the SEA liaison(s). Based on the proximity of the state(s) involved, it may or may not be possible to have each SEA liaison meet with the initiating agency at the same time. Obviously, there are

many positive aspects to the sharing of ideas and practices that can occur when several liaisons meet at the same time with the initiating agency. *(See Appendix D for sample agendas for meetings with SEA liaisons.)*

It is suggested that the first SEA liaison meeting be devoted to a discussion of the anticipated outcomes of the program and the role of the SEA liaison. *(See Appendix E for the documents used in the RBS program: Anticipated Outcomes of RBS Minorities and Women Project and The Role of the SEA Liaison with the RBS Minorities and Women Project. These documents can be easily adapted by removing references to the development of a model program.)*

Newsletter Editors. Developing a working relationship with various state newsletter editors is a relatively easy task. The SEA liaisons are asked to furnish the names of the various state education newsletter editors. The initiating agency contacts each of the editors by telephone and discusses the goal and objectives of the program, being clear to indicate the support of the chief state school officer and the name of the SEA liaison to the project. The editor is asked questions regarding circulation size, target audience, publication frequencies, and publication format. Sample issues are requested to be mailed to the initiating agency. Once it is determined by the initiating agency that a particular newsletter is appropriate for dissemination of program information, a date for a meeting of several newsletter editors is determined. This meeting provides an opportunity for the initiating agency to clarify the program goals and describe the importance of the newsletter editors' role in the

program. The newsletter editor can clarify their editorial policy, submission dates, and the desired format of the news releases.

In the identification of newsletters to disseminate program information, it is important to explore the national organizations that might have state-level offices and newsletters. Examples are the state education association of the National Education Association (NEA) or the state School Board Association. Professional organizations such as Phi Delta Kappa have regional chapters and there are often regional educational research associations. Institutions of higher education usually have publications that disseminate research findings or professional opportunities.

Establishing Need

In order to establish this program, relationships must be established and then the needs the program can address in a state must be established. The following sections discuss how to establish needs, present an example of a needs assessment survey to determine the activities that might enhance the participation of minorities and women in education R&D leadership and management, and describe a survey recently completed by the American Educational Research Association (AERA).

Needs Assessment. Needs assessment is a process for identifying the purposes of a program, identifying what activities are needed for serving the purposes, assessing if the identified purposes are being met, rating the importance of those needed activities, and applying the findings by formulating goals, choosing procedures, and assessing progress. (See Appendix F for basic information describing needs assessment strategies.)

When preparing to conduct a needs assessment for this program, clarify the reasons for the study and determine that the reasons are ethical and viable. Ask some of the key members of the group involved what questions they have and the information which they think they need (e.g., education researchers, minority group members, women). Communication with the key individuals helps to establish support for the program and authenticates the study's necessity leading to better use of the results.

Formulate a design for the study by defining the key terms and starting the primary and secondary objectives of this program. Prepare a detailed schedule of data gathering, analysis, and reporting activities including the staffing pattern, the facilities, and the budget needed. Develop the instrumentation, collect the data, analyze the data, and prepare a report. (Further information to help in this process can be found in the next section and Appendices I and J.)

It is important to summarize a formal agreement between the parties (i.e., the initiating agency and the SEA) in a letter before beginning. Clear communication is necessary to delineate the responsibilities and assure the parties involved of agreements made. Arrangements must also be made for releasing reports. Finally, the initiating agency must assist the SEAs to apply the needs assessment findings in order to answer the original question(s).

Identification of State(s) Needs. *The RBS project designed a needs assessment to determine the discrepancies or needs that contribute to the lack of participation of minorities and women in education research and*

development management and leadership. This activity began with the solicitation of information and support from the chief state school officers. (See Appendix G for copies of the letters of support for the RBS needs assessment activity.)

The target population for the needs assessment was defined by selecting tri-state data from a census conducted by the Bureau of Social Science Research under a grant from the National Institute of Education. This census identified 2,434 national organizations that conducted research and development activities during 1976-77 (The American Registry of Research and Research-related Organizations in Education - ARROE). (See Appendix H for an article reporting the census results: Organizations that Perform Educational R&D: A First Look at the Universe.)

Two instruments were then developed: A Demographic Survey and an Attitudinal Survey. (See Appendix I for these needs assessment instruments.) (See Appendix J for a guide to adapt the RBS needs assessment design and instruments to other states.)

AERA Survey on the Status of Educational Researchers. Under a grant from the National Institute of Education, the American Educational Research Association (AERA), the national professional organization for educational research, collected comprehensive data on the status of majority and minority women and men professionals in educational research and development.

Three separate activities were conducted. The first was a global survey of organizations of the American Registry of Research and Research-related Organizations in Education (ARROE) to determine the job levels of

majority and minority, handicapped and non-handicapped women and men working full-time and part-time in education research and development. Second, a survey was administered to a sub-group of the initial respondents that collected information on their relative status and participation. The third activity was a telephone survey of 100 R&D professionals that focused on the individual's personal experience with discrimination, their response(s) to the discrimination, and their evaluation of the effectiveness of their responses.

Before conducting a needs assessment for this program, an initiating agency should become familiar with the results of this AERA work. The survey results, a final report, and data tapes will be available after February 1982, from the following sources:

William Russell, Executive Officer
American Educational Research Association
1230 17th Street, N.W.
Washington, D.C. 20036
202-223-9485

Mary V. Brown, Project Co-director
Broad IMPACTS
509 Arbutus Avenue
Horsham, PA 19044
215-675-3372

Patricia B. Campbell, Project Co-director
Campbell-Kibler Associates
Groton Ridge Heights
Groton, MA 01450
617-448-5402

STAGE TWO: IMPLEMENTATION

Once the program is established, the activities to further the program goal, increasing the participation of minorities and women in education research and development (R&D) leadership and management, may begin. The approach is three-pronged: 1) creating awareness through the dissemination of information related to minorities and women in education R&D leadership and management, 2) conducting workshops/seminars on R&D technical and management skills, and 3) providing technical assistance to individuals engaged in education R&D who are themselves minorities or women or who are conducting projects related to the concerns of minorities and/or women in education. Each of these program activities will be discussed in the following sections.

Creating Awareness

Awareness of the issues related to minorities and women in education R&D leadership and management is created through the publication of articles in education-related state newsletters, development of informational products that can be used to disseminate information, and networking with other projects to identify information that would help create awareness.

Publication of Articles. News articles designed to provide information about the current and potential contribution of minorities and women in education R&D leadership and management, announcements of training opportunities/possibilities, annotations of relevant publications, and

identification of information and technical assistance resources, are prepared for publication in state newsletters.

(See Appendix K for published articles from the RBS project that demonstrate the relationship between the nature of the information presented and the type of publication.) The article for Pera-scope, *the newsletter of the Pennsylvania Research Association, provides information on a research seminar of interest to the education researcher. The same article, written for a state-wide newsletter delivered to every teacher, focuses on the ratio of women administrators to women teachers and is appropriate to the audience. The final article appeared in a national education publication. The description of the RBS program was appropriately published nationally because it provided information about a new program. The interested audience included researchers from other areas who might be interested in replicating the program or individuals from within the region who were interested in the program's services.*

Development of Informational Products. Product development is a second method to help increase awareness of the issues surrounding the lack of participation of minorities and women in education research and development management and leadership. Products may also be used to increase knowledge and skill levels. *(See Appendix L for an example of one such product: the* Abstracts of the American Educational Research Association 1981 Annual Meeting Papers Related to the Participation of Minorities and Women in Education Research and Development. *This product includes papers such as "Mainstreaming Black Faculty from Traditionally Black Institutions into R&D," "Minority Women in Education Research," and "Power Strategies for the Advancement of Academic Women.")*

Networking with Related Projects. The third means of creating awareness is accomplished by contacting other agencies which are conducting similar programs. (See Appendix M for a letter RBS sent to other NIE Minorities and Women's Program Projects.)

This letter served two purposes. First, responses to this letter established an awareness at RBS of other projects for future reference. Second, many times the skill-building opportunities of the other projects were relevant to the RBS target audience. These skill-building opportunities, as continually sent to RBS, were then announced in project-related newsletters. Respondents were able to avail themselves of opportunities which would not have been readily available had it not been for the retrieval and dissemination system developed by RBS.

See Appendix N for an example of how RBS disseminated information regarding the Third Summer Institute for Educational Research on Asian and Pacific Americans, sponsored by the Asian American Bilingual Center of the Berkeley Unified School District. A news article was written and letters were sent to individuals in the RBS files who had indicated an interest in Asian Pacific topics.

Conducting Workshops/Seminars

The workshops and seminars of this program are designed to increase the R&D technical and management skills of those minorities and women attending. The workshops/seminars are designed to develop or enhance a specific basic R&D skill and then to provide practice in that skill

through its direct application to on-going efforts to increase the participation of minorities and women in education R&D leadership and management.

Two workshops are described here, but any number of training sessions can be held based on the needs of the state(s) and the resources available. The first workshop included here provides participants with skills in needs assessment and then helps them conduct a needs assessment regarding the participation of minorities and women in education R&D leadership and management. The second workshop provides participants with project management skills and then helps them consider their own career goals.

The initiating agency's first workshop effort should be discussed and finalized during one of the first meetings with the SEA liaison(s). The basic parameters should be developed by the initiating agency and the SEA liaison(s). There are two proposed outcomes of this kind of workshop effort. First, the participants are expected to develop skills. Second, the participants can become part of a support system for the SEA liaison(s) with regard to the work of this program.

Following determination of the parameters of the workshop, the topics, the list of participants, and the invitational method are determined; again, in conjunction with the SEA liaison(s). *The document "Basic Parameters Regarding 1980 Workshop" has been included in Appendix O to demonstrate how to structure the planning dialogue and formalize the details of a workshop.*

Needs Assessment Workshop. The topic of the first RBS Workshop evolved from a concern that the activities of the RBS project should reflect the needs of Pennsylvania, New Jersey, and Delaware and

a belief that, in order to ascertain those needs, a needs assessment should be conducted. Since needs assessment is an education R&D skill useful to all those in education R&D, it was further decided to combine specific skill-building training for the participants with activities that would help RBS adapt a needs assessment instrument to be used in each state.

In preparation for the workshop, needs assessment training materials were prepared; drafts of two needs assessment instruments were developed (a demographic survey, to be responded to by the personnel department of education R&D agencies; and an attitudinal survey, to be administered to the employees of those agencies); a list of organizations that perform education R&D was compiled; articles related to the status of minorities and women in education R&D were gathered; two annotated bibliographies were prepared (Needs Assessment: Selective Annotated Bibliography and Women in Education R&D Leadership and Management: A Selective Bibliography); and a series of relevant NIE publications were secured: Conference on the Educational and Occupational Needs of Hispanic Women, Conference on the Educational and Occupational Needs Of White Ethnic Women, Conference on the Educational and Occupational Needs of American Indian Women, and Conference on the Educational and Occupational Needs of Black Women, Volumes 1 and 2. Pre-workshop materials were developed and sent to participants. (See Appendix P for letters and pre-seminar questionnaire.)

The resultant workshop, entitled "Needs Assessment: Techniques and Application for Assessing the Participation of Minorities and Women in Education R&D Leadership and Management," was held on October 29, 1980.

Guest speakers were Betty Mae Morrison of the University of Michigan (Ann Arbor) and Pat Campbell of Campbell-Kibler Associates (Middletown, New Jersey). Twenty-four participants, representing the departments of education within the tri-state area and Maryland, the New Jersey Department of Civil Services, a Pennsylvania Intermediate Unit, and the New Jersey State Office of Administrative Law, had been selected by the SEA liaisons (in conjunction with other SEA personnel). These participants were selected with the understanding that one-half of the workshop would be devoted to adapting the RBS needs assessment design and, therefore, participants should be able to help direct the project's efforts in the accomplishment of the design of the survey. (See Appendix Q for seminar materials.)

The morning session of the workshop was devoted to instruction in the purposes, issues, and methods of needs assessment and concluded with two small group sessions, one for users and one for providers of needs assessment design and draft instruments (for assessing the needs of minorities and women in education R&D). State meetings followed, during which the participants were asked to critique the design and the instruments and review the RBS-prepared list of agencies that conduct education R&D within their states. The purposed RBS needs assessment would be conducted with these agencies. (Participants' input was gathered for later use in revising the design and instruments and making them state-specific and in amending the list of agencies conducting R&D activities.) At the end of the workshop, participants were asked to complete a post-workshop questionnaire.

Following the workshop, letters were sent to participants expressing appreciation for their participation and enclosing the results of the post-seminar questionnaire. (See Appendix R.)

Project Director Workshop. The second workshop was designed expressly for minorities and women who are presently functioning as "Project Directors." The workshop was designed to provide opportunities, skills, and information to help ensure these individuals of a successful project directorship and an ensuing career in education leadership/management.

Unlike "project management" workshops that provide training on how to manage people, time, money, etc. to reach an end goal (concentrating on the development of PERT charts and other schedules), this workshop was designed to provide insight to the conduct of successful practices and project formalities usually learned from a mentor. For example, the following topics are covered: preparing for a Site Visit, working with a Project Monitor, preparing Progress Reports/Final Reports, preparing a product for national distribution, and disseminating project information.

This workshop would also provide an opportunity for those participating to consider their career goals and the significance of their project directorship to their career development. How to make the best use of the project directorship and prepare for a next position are topics covered.

Participants for this workshop were chosen through a self-nomination procedure, by recommendation from the SEA liaisons, or by the project director's supervisors. A news article asking that project directors contact RBS was released through the newsletters. (See Appendix S for a newsletter article describing RBS' search for Project Directors.) Telephone calls were made to the appropriate SEA personnel who supervised programs employing project directors.

An annotated bibliography was developed for this seminar. Information on career development strategies useful to minority and women project directors was developed to stimulate their development of career goals. (See Appendix T for this annotated bibliography.)

Providing Technical Assistance

Technical assistance is provided to those minorities and women who seek to develop or enhance their education R&D skills and those researchers who desire assistance with projects that relate to the concerns of minorities and women in education. Technical assistance is primarily provided over the telephone and through correspondence. Telephone inquiries become numerous and it is important to have a standardized form. (See Appendix U for the Telephone Request Form used by RBS.)

Individuals who learned about the RBS project through the articles in tri-state and national publications made requests for assistance on topics diverse in subject matter and complexity. The following examples have been chosen to illustrate the range of requests to which the RBS project staff responded.

- identification of effective proposal writing skills (request from a graduate student at West Chester State College)

- information regarding the status of women as school administrators (request from a vocational education supervisor in New Jersey)

- identification of grant opportunities related to studies of the education of women (request from a teacher, Allentown, Pennsylvania)

- identification of sources of funding for supplemental day care services (request from a child care center director, Philadelphia, Pennyslvania)

- identification of materials concerning women in education research and development leadership (request from a McKeesport High School teacher, included in Appendix V with the RBS response)

- identification of sources of films concerned with human relations as related to segregation/desgregation in schools (request from a parent education and human relations center, Upper Darby, Pennsylvania)

- identification of funding sources to assist in implementing and evaluating a college writing course (request from a supervisor in the Allegheny Intermediate Unit, Pittsburgh, Pennsylvania)

- identification of possible funding sources for pre-school education programs (request from a nursery school director, Philadelphia, Pennsylvania)

- suggestions of ways to introduce educational products to marketing agencies (request from a social studies teacher, Wallingford-Swarthmore School District, included in Appendix V with the RBS response)

- identification of validated materials on sex fairness in schools (request from a high school teacher, Philadelphia, Pennsylvania)

- identification of evaluation techniques for use in a teacher training program on sex-equity (request from the director of the Mid-Atlantic Center for Sex-Equity, Philadelphia, Pennsylvania) J. Buttram of RBS staff provided evaluation services to this project.

- recommendation of competent women and/or minorities to contribute to the fall issue of Partnership, on the theme of "Gifted and Talented" (request from the Editor and the RBS response included in Appendix V)

- identification of possible funding sources for a proposal exploring social policy and planning regarding minorities and women at federal, state, and local levels (request from a Professor of Education at the University of Pennsylvania)

- identification of a training opportunity on workshop development (request from the Editor of Pennsylvania Education, the Pennsylvania Department of Education State Newsletter, included in Appendix V along with the RBS response and a letter of appreciation)

- identification of ethnographic research experts and provision of assistance in resume writing skills (from a doctoral candidate at the University of Missouri, included in Appendix V with a follow-up letter testifying to the influence of the RBS project on her research career)

Technical assistance often involved a number of contacts, usually because of the recipient's satisfaction with RBS technical assistance suggestions. Typically, as an individual's project progressed, the activities became more complex and the aid which was sought became more sophisticated. In other cases, repeated contact was initiated by RBS after becoming aware of the individual's area of interest. Supplemental information augmenting the original needs expressed by the individual was then offered.

The following paragraphs describe some individuals to whom RBS provided repeated technical assistance. (See Appendix W for copies of correspondence regarding this technical assistance.)

Early in the project, an instructor from Rosemont College, requested information on proposal writing skills. She was applying for a grant from the Public Committee for the Humanities in Pennsylvania. Assistance in proposal writing was provided. In June 1980 this individual came to RBS to thank the project staff for their assistance. Her grant application had been awarded, and she was to direct a conference, "Women in the Professions: the Asian-American Case," October 24-25, in Philadelphia. In August, she asked the RBS staff to assist her further by helping to publicize her conference through the tri-state education newsletter network. A memorandum

and a news release describing the conference were sent to the 23 affiliated newsletters. The conference, "Women in the Profession: The Asian-American Case" was very successful. In October, this individual also requested assistance in identifying a person at the Women's Educational Equity Act (WEEA) Program office whom she could contact to learn of the final decision on a proposal that she had recently submitted. Again RBS assisted her in this matter.

In June, project staff met at RBS with the Executive Director of the Native American Cultural Center in Philadelphia. Through discussions, the Center's needs were clarified and a program, now titled the American Indian Family Mental Health Services, was conceptualized. The Executive Director wanted to seek funding for the Center's programs and requested that the RBS project staff assist in identifying possible funding sources for mental health projects, especially those related to American Indian family mental health services. Project staff provided relevant information. When the report on the Conference on the Educational and Occupational Needs of American Indian was published, a copy was sent to the Executive Director.

Also in June, a Bethlehem, Pennsylvania teacher requested some suggested directions for her graduate research project. She wanted to study the "effects of menses on classroom performance and/or standardized test taking." Over the summer, the project staff provided her with assistance through suggestions of articles and applicable periodicals to examine, as well as recommendations of two instruments that might be useful in her data collection.

In May 1980, the project received a letter from an instructor at Rutgers University requesting information about the RBS Minorities and Women project and the services that could be offered. In September, the instructor requested assistance in her search for sources of funding for a study that she wanted to conduct concerning the reasons middle class parents give for sending their children to private schools. The project offered suggestions of possible funding sources. In addition, the staff suggested the use of the project's tri-state newsletter for publicizing the Institute for Teachers and Supervisors, which is directed by the Rutgers' instructor.

STAGE THREE: INSTITUTIONALIZATION

The last stage of this program encompasses the methods by which an SEA can assume the services which were originally developed and managed by an initiating agency. The initiating agency and the SEA need to negotiate what activities will be continued and where the responsibility for their continuation will be located within the SEA. Also, new personnel will need to develop the skills to administer these services.

First, review the services which have been provided with the SEA(s). These services should be ranked according to their level of importance to the SEA and then ranked according to the ease with which the SEA can assume the service within its existing structure. The services to be considered include:

- identification of internships, fellowships, post-doctoral studies, policy seminars, and other opportunities designed for minorities and women in education R&D; dissemination of information and application forms regarding these opportunities; and assistance in completing applications.
- identification of new publications, AERA sessions, etc., of interest to minorities and women in education R&D.
- counsel and network with individual minorities and women in education R&D who are interested in changing positions, getting training needed to advance, or similar topics that they feel they cannot discuss with their supervisor.

When it is determined which activities the SEA wishes to assume, it is necessary to determine the location of these services within the organizational structure. Several factors need to be considered,

including:

- where should these services be located?
- what training, background, experience should the person performing these services have?
- what percentage of a person's time would be needed to perform these services?
- what information would a person need in order to perform these services?
- what back-up, support might be needed by this person during the first year performing these services?
- do any state department staff presently provide any services similar to those described? who? what services?
- what steps do you think would need to be taken in order to establish these services within your state department by _____?

The amount of "training" that the initiating agency should provide these SEA personnel will differ for each individual according to prior experience. The SEA liaison will assume the task of coordinating this "training" and sensitizing the individual(s) to the issues that are pertinent to the participation of minorities and women in education R&D leadership and management.

APPENDIX A

Articles Regarding the Participation of Minorities and Women in Education R&D Leadership and Management

From Educational Researcher, October 1975. Reprinted with permission and courtesy of the American Educational Research Association for use within the RBS Needs Assessment seminar held October 29, 1980 in Philadelphia.

Women in Educational Research: Their Status from Student to Employee

CAROL KEHR TITTLE, *Queens College of the City University of New York*
TERRY N. SAARIO, *The Ford Foundation*
ELENOR R. DENKER, *Graduate School of the City University of New York*

Data presented in this article are based on responses to mail questionnaires which focused on the multiple roles of women in the educational research community, i.e., *women as students* in doctoral programs in education, *women as faculty members* in institutions which train educational researchers, and *women as employees* in research organizations—local school districts, state education departments, and R&D organizations. The questionnaires were mailed in November, 1974, with a follow-up mailing in December.

A number of professional associations have undertaken similar surveys (e.g., American Psychological Association, 1972; American Sociological Association, 1973; American Economic Association, 1974) and analyzed the means of combating sex discrimination within a profession (American Economic Association, 1973). Similarly, the status of women within the Department of Health, Education and Welfare has been examined by the Women's Action Program (U.S. DHEW, 1972) and the American Association of University Women has prepared a *Joint Statement on Women in Higher Education* (AAUW, 1974) putting forth principles to guide the education and employment of women in institutions of higher education.

Women as graduate students have been the subject of several recent studies. Solomon (1973, 1974) reported that since 1950 women have received a slightly increasing proportion of the doctorates awarded in the U.S. (9.5% in 1950 to 14.4% in 1971). The *1973 Profile of Doctoral Scientists and Engineers in the United States* (National Academy of Sciences, 1974) showed that women received nine percent of the doctorates in science and engineering. Percentages of women doctorates are higher within the fields of psychology (20.5%), the social sciences (10.9%), and the non-sciences (11.6%). Centra (1974) cited data showing that 20% of the doctorate degrees in education awarded in 1968-69 went to women (13.1% of the total degrees across all fields were conferred on women). He also presented more recent data which showed that women received 16% of all earned doctorates in 1972 and 18% in 1973.

Studies have also considered the question of bias in admission to graduate school and in practices during graduate study. Solomon (1973) cited data from Stanford and UCLA which did not indicate bias in admission in education when the admission rate (admissions/applicants) is used as the standard. In a later study, Solomon (1974) reported data analyzed by schools classified on quality. In the top ranked schools a larger percentage of applications from men were accepted.

Data on fellowships, scholarships, and teaching assistantships have also been examined by sex. Solomon (1973 and 1974) indicated that women did at least as well as men when the proportion of fellowships and scholarships awarded are compared to the number of applicants. Holmstrom and Holmstrom (1974) used data from the ACE/Carnegie Commission survey of 1969 to report sex differences on variables related to attitudes in graduate school. They concluded that, "generally, faculty attitudes toward students and faculty availability to students seem to be important determinants of student satisfaction and performance. . . ." (p. 16-17).

The most extensive relevant study of doctorates was conducted by Centra (1974) who surveyed 3,658 women and men who received the Ph.D. or Ed.D. in 1950, 1960, and 1968. His study encompassed reports by women and men doctorates on graduate studies, first employment, current employment, publications, marriage and family life, and attitudes toward women's rights.

The National Academy of Science *1973 Profile of Doctoral Scientists and Engineers* showed sex differences favoring men in salary. The median salary for men in 1973 was $21,170 and for women $17,620. The median salaries for selected fields were: psychology—men $20,580, women $18,120; social sciences—men $20,610, women $17,460; and non-science—men $23,220, women $18,700. Median salaries were compared for age groups. The median salaries of men and women under forty years of age increased at an approximately similar rate over time. Between 40

TABLE 1: DISTRIBUTION OF PERCENT OF MEN AND WOMEN ENROLLED IN FULL TIME DOCTORAL STUDY—39 INSTITUTIONS

Percent Enrolled	Number of Institutions Men	Women	
90-99%	—	2	
80-89	4	—	
70-79	6	—	
60-69	6	3	
50-59	15	7	
40-49	4	13	
30-39	2	4	
20-29	—	9	
10-19	—	1	
0-9	2	—	
Total Number of Institutions	39	39	
Total Number of Students	3388 (57%)	2552 (43%)	5940 (100%)
Mean Number Enrolled	86.9	65.4	152.3 (total M&F)
Median Number Enrolled	61	40	89
Range	2-314	1-243	4-537

and 50 years of age the rate of increase for males continued to rise while the rate of interest for women in this bracket "waned dramatically" (p. 24).

Centra's data showed similar differences in the annual income of women and men. The median income (salary, honoraria, and royalties) for women employed full time was $17,200, for men the median was $21,600. In education, the median for men was $21,700 and for women $18,100. When income was compared for men and women with the same number of years' work experience, the differences remained, and the size of the difference in income increased with the number of years of experience. With 5-6 years of work experience, the difference in median annual income was $2,500; with 13-14 years, the difference was $3,600, and with 22-23 years of work experience, the difference was $4,600. This pattern over all types of employment settings was repeated in the academic setting and within academic rank. The smallest difference between men's and women's incomes appeared for those employed by the federal government.

Malkiel and Malkiel (1973) examined salary differentials among 272 professional employees of a single corporation. This "micro-economic" case study was useful in studying discrimination because large numbers of men and women were hired to do the same range of jobs, and hence sex discrimination could be examined with occupation held constant. Secondly, the study was confined to highly educated professional employees, and therefore the sample was relatively homogeneous with respect to career interests and attachment to the labor force. The employer opened personnel records to examination so that previous experiences and personal characteristics influencing salary differentials could be examined. Of the 272 employees in the study, 159 were male and 113 female. The rate of return to schooling was estimated at 8.1% for men and 6.6% for women. The researchers expanded the wage model to include estimates of individual productivity, the Ph.D., marital status, area of study (psychology, economics, etc.), and absence rate. These added variables improved the prediction of salary and accounted for about 75% of the variance in men's salary levels and over 80% of the variance in women's.

Discrimination was examined in two ways: (1) Do men and women in equal job levels, with the same characteristics, get equal pay? This question was answered *positively*. (2) Do men and women with equal characteristics get equal pay? This was answered *negatively*. Malkiel and Malkiel found that, "... women with the same training, experience, etc., as men tend to be assigned to lower job levels. ... We suggest that it is difficult for a discriminating organization to give male and female employees the same titles and pay them different amounts. It is far easier to assign women to lower job levels and then set up a pay structure by level that is the same for both sexes. Thus, our analysis of salary differentials including job levels should not be interpreted as indicating an absence of discrimination. The assignments to job levels can most plausibly be interpreted as the mechanisms by which the discrimination takes place." (Malkiel and Malkiel, 1973, p. 704.)

TABLE 2: DISTRIBUTION OF INSTITUTIONS BY SIZE OF ENROLLMENT: MEN, WOMEN, AND COMBINED (MEN AND WOMEN)

Number Enrolled	Number of Institutions Men N	Men %	Women N	Women %	Combined Enrollment (Men and Women) N	%
351 and above	—		—	—	6	15
301-350	1	3	—	—	—	—
251-300	1	3	—	—	3	8
201-250	2	5	3	8	3	8
151-200	4	10	2	5	3	8
101-150	5	13	5	13	3	8
51-100	8	20	5	13	11	28
1- 50	18	46	24	61	10	25
Total Number of Institutions	39	100%	39	100%	39	100%

Obviously a number of factors account for the discrimination found in the above surveys (differing experiences, productivity, and level of job assignments). Nevertheless, the resounding conclusion which can be drawn from these studies is that discrimination against women is evident in a variety of academic settings.

TABLE 3: TYPE OF STUDENT RATED AS MOST AND LEAST LIKELY TO SUCCEED IN COMPLETING A DOCTORAL PROGRAM IN FOUR YEARS

Type of Student	Most Likely N*	Most Likely %	Least Likely N**	Least Likely %
Married Males	39	87	6	13
Single Females	34	76	11	24
Single Males	33	73	12	27
Married Males with children	15	33	30	67
Married Females	14	31	31	69
Married Females with children	7	16	38	84

N** Number of times ranked 1-3
N** Number of times ranked 4-6
Rankings by 45 respondents; 6 respondents indicated no difference in expectations among the six categories, two that no data were available, and the remainder did not rate or indicated they had no basis for ranking.

Graduate Students and Faculty in Schools of Education

The survey list of colleges and universities with doctoral programs in education was obtained from the publication, *Earned Degrees Conferred 1970-71 Higher Education* (Washington, D.C.: National Center for Educational Statistics). All institutions listed as granting doctorates in education were mailed a questionnaire (144 institutions). Eight of the 144 responded with an indication that the questionnaire was not applicable to their institution. Sixty-nine of the remaining 136 institutions responded with completed or partially completed questionnaires (51% response rate).

TABLE 4: NUMBER AND PERCENT OF MEN AND WOMEN AWARDED DOCTORAL DEGREES FOR 60 INSTITUTIONS

	Men N	Men %	Women N	Women %	Total N	Total %
1972-73	2285	72%	884	28%	3169	100%
1973-74	2208	69%	1011	31%	3219	100%

Number of Students in Graduate Study

The questionnaire asked for the number of men and women students in full-time and part-time graduate study. Some institutions responded with total enrollments in both MA and doctoral programs.

The distributions of number and percent enrolled by sex in Tables 1 and 2 indicate that women tend to be underrepresented in more institutions than do men. The total number of students enrolled shows a smaller absolute difference between males and females—57% male enrollment and 43% female enrollment. This ratio is certainly favorable when compared with data on women recipients of doctorates over all fields: 85.6% doctorates in 1971 were awarded to men, 14.4% were awarded to women (Solomon, 1973). Education as a field awarded a slightly higher percentage of doctorates to women—20.4% in 1969-71 (Solomon, 1973). In view of these doctoral data, and our own presented later, the over-all ratio of enrollments is likely to be inflated (perhaps as a function of selective response of institutions), although it is not possible to say by how much. Some increase in the percentage of women doctoral students has probably occurred over the last several years. For example, one institution specifically commented on sex bias in recruiting by noting that sex is no longer a criterion in recruitment, and that "N.B. This is a change from ten years ago when recruitment efforts focused on *males*."

A summary of the data in Table 1 on enrollment of men and women students indicates that 31 of the 39 institutions report a higher ratio of men enrolled in doctoral programs; 16 of these institutions report a male enrollment of 60% to 89%.

Admission, Recruitment, and Support

Three questions dealt with age, marital status and sex as part of the admission and recruitment processes. Almost all institutions said that there was no age limit for admission to graduate study. Two institutions indicated age limits of 45 and 55, which apply to both men and women. All institutions stated that sex and marital status were not criteria in admission. However, the responses indicated somewhat differing attitudes or expectations regarding completion of "a doctoral program within the average four year period." As shown in Table 3, the rankings of *most likely* to complete the program were given in the order: married males, single females, single males, married males with children, married females, and married females with children (ranking from a high of 87% rating married males most likely to complete, to a low of 16% for married females with children). For this group of ratings, married females with or without children are considered *least* likely to complete the doctoral program in four years.

Two questions dealt with financial aid for students—whether aid was restricted to full time students and whether marital status and/or

TABLE 5: NUMBER AND PERCENTAGE OF MEN AND WOMEN HOLDING FULL TIME FACULTY POSITIONS ACCORDING TO RANK AT 69 INSTITUTIONS

	Men		Women		Total
Rank	N	%	N	%	N
Full Professor	1506	88	208	12	1714
Associate Professor	1149	82	254	18	1403
Assistant Professor	976	67	485	33	1461
Instructor	213	45	256	55	469
Total	3844	76%	1203	24%	5047

parenthood disqualified students for financial aid. Over half of the respondents (40 institutions, 58%) said financial aid was restricted to full-time students. At most institutions (59, or 86%), marital status and/or parenthood did not disqualify students for financial aid. Fifty-three (77%) of the institutions said there were no differences in amount of stipend in either category (teacher/research assistant or fellowship/scholarship) for men and women. Four institutions reported median stipends higher for men than women, and one institution indicated that men received less than women.

Regarding child care facilities available to students and faculty, a minority of the institutions rated as fully adequate child care facilities available to faculty (7 institutions, or 10%) and to students (8 institutions, 12%). Most of the institutions indicated that no facilities were available for faculty (37 institutions, 54%) or for students (31, 45%). The remainder indicated that "partial" facilities were available for children of faculty and students.

Doctoral Applications and Doctorates Awarded

Institutions were asked to give the number of applications, acceptances, and enrollments in their doctoral programs during the last academic year. Three institutions (9%) show no differences between men/women percents of accepted and applied, 9 institutions (26%) have higher percents of men accepted than applied, and 22 institutions (65%) indicate women were accepted in higher percents than they applied. A continuation of these percentage increments would gradually increase the ratio of women to men receiving doctorates in education.

The number of doctorates awarded to education students in the 1972-73 and 1973-74 academic years were reported by 60 institutions. The mean number of doctorates per institution awarded to men in 1972-73 was 38.1 and to women 14.7. The averages in 1973-74 were 36.8 for men and 16.9 for women. Table 4 presents summary data on the doctoral degrees awarded to men and women. Thirty-five of the institutions show increases in the percent of women doctorates from 1972-73 to 1973-74, 20 institutions a decrease, and five institutions no difference between the two years.

The data in this survey show a higher percent of women receiving doctorates than reported in earlier data cited by Solomon (1973). His data showed that women received 20.4% of the doctorates in education as a field, for the years 1969-71.

Placement

Thirty-two of the 69 institutions were able to provide data on placement of male and female graduates into various job categories. The categories included university/college faculty position, post-doctoral fellowships, industry, non-profit organization, self-employed, school systems, state agencies and federal agencies. Similar distributions were obtained by sex for job placement categories.

Professorial Level, Salary, & Tenure Status

Table 5 shows that men and women are approximately equally distributed at the instructor level, but noticeable shifts in the proportions occur at the upper professorial ranks.

The mean and standard deviation of the median salary for male and female faculty members according to rank are given in Table 6. The mean salary differences favor men at each rank.

Table 7 presents the tenured and nontenured status of male and female faculty members according to rank. Since most of the tenured faculty are found in the upper professorial ranks and since few women are found in those ranks, few women hold tenured positions.

Hiring Policies, Maternity/Paternity Policy, & Recruitment Sources

Seventy-seven percent (53) of the institutions indicate that husband

TABLE 6: MEAN OF MEDIAN SALARY AND STANDARD DEVIATION FOR INSTITUTIONS: FEMALE AND MALE FULL TIME PROFESSORS ACCORDING TO RANK

	Males			Females		
Rank	Mean Salary	S.D.	N*	Mean Salary	S.D.	N*
Full Professor	$21,200	2.9**	49	$20,300	2.85**	39
Associate Professor	$16,900	1.9	48	$16,300	1.6	43
Assistant Professor	$14,300	1.45	48	$13,700	1.2	42
Instructor	$11,900	2.26	28	$10,800	1.8	26
Total	$16,600	4	$15,700		3.8	

*Number of institutions
**$2,900, $2,850, etc.

TABLE 7: NUMBER AND PERCENTAGE OF TENURED AND NONTENURED MALE AND FEMALE FACULTY ACCORDING TO RANK AT 58 INSTITUTIONS

	Males				Females				
	Tenured		Nontenured		Tenured		Nontenured		Total
Rank	N	%	N	%	N	%	N	%	N
Full Professor	1467	84	58	3	204	12	17	1	1746
Associate Professor	942	67	202	14	224	16	37	3	1405
Assistant Professor	210	15	761	53	130	9	337	23	1438
Instructor	30	4	327	45	22	3	343	48	722
Total	2649	50%	1348	25%	580	11%	734	14%	5311

and wife may be appointed in the same department or school. Sixty-five percent (45) of the respondents reported that women publish with the same frequency as men. Ninety-one percent of the respondents (63) indicate that their university has adopted an affirmative action plan. Seventy-seven percent (53; with 7 indicating the question was not applicable) have adopted maternity leave without loss of benefits or position, while only 9% (6; 9 not applicable) have adopted paternity leave.

Recruitment of men and women to a university faculty is done in exactly the same way, according to the respondents. Faculties rely most heavily for recruitment upon their friends and colleagues in other institutions. Second in importance for recruitment purposes are the job advertisements posted in graduate schools. This is followed by the placement service at professional meetings, and lastly, placement offices at universities, *The Chronicle of Higher Education*, and applicant letters of inquiry.

Educational Researchers in Non-Academic Institutions

Researchers in education find employment in local school districts, state departments of education, and private non-profit or for-profit organizations. Each type of institutional employer was surveyed. Respondents were asked to give the number of full- and part-time professional male and female educational research staff by job title with median salaries for each. They were also asked if females are assigned management responsibilities with the same frequency as males; if the organization has an affirmative action plan and maternity/paternity leave policy; and the most useful recruiting sources for males and females.

A series of six job categories defined according to rank of job title and magnitude of an accompanying salary were constructed from the responses to the questionnaire. (The *Final Report* contains a list of job titles for each of the six job categories by type of employer.) Even though the list of job titles and salary ranges vary by the type of organization analyzed, a hierarchical commonality appeared across these organizations, and hence it was possible to apply the same categories for all analyses.

The coding of the six categories used the title and salary of the chief executive/manager/administrator as a baseline, and ranked "1." The other categories were established by comparing the salary differences and implicit rank differences by job title between the "1" position and the next:

Category 2—Category 1 minus up to $3,999, and middle level administrative authority or senior research authority within the organizational unit;

Category 3—Category 1 minus $4,000 – $7,999, and research staff position without administrative authority;

Category 4—Category 1 minus $8,000 - $11,999, and a secondary research position;

Category 5—Category 1 minus $12,000 - $15,000, and a staff assistant position; and

Category 6—Category 1 minus $16,000 or more, and again a staff assistant (no clerical or secretarial positions were coded).

School Districts

Questionnaires were sent to all 189 school districts in the country with student populations of 25,000 or above. Of the 84 questionnaires returned, 15 were received from districts with a student population of 100,000 or above (hereafter labeled *large* districts in the sample), 33 from districts with a student population of 50,000 to 99,000 (labeled *medium*), and 36 from districts with a student population of 25,000 to 49,999 (labeled *small*).[1]

Salary and Job Category

A summary containing the median salaries by sex and category can be found in Table 8.

Women are found more frequently than men in the lower ranking positions. In addition, in most categories, women's salaries fall within a lower range than do men's. However, these figures have not been controlled for longevity within position and therefore caution must be used in interpreting their significance.

Another perspective on occupational dispersion is offered in Table 9, which displays those districts which report solely males, solely females, and females and males jointly in each job category. As the data above suggest, most districts within category 1 and 2 report only men in these positions. This trend is reversed in the lower job classifications.

Responsibility, Affirmative Action and Maternity/Paternity Policies & Recruitment Sources

Most school districts (85%) report the assignment of women to management responsibilities with the same frequency as men. Many school districts have adopted an affirmative action plan (60%). While all districts have adopted a maternity leave plan without loss of benefits, less than half of the dis-

TABLE 8: MEDIAN AND RANGE OF SALARIES BY SEX AND JOB STATUS CATEGORY FOR SMALL, MEDIUM, AND LARGE SCHOOL DISTRICTS

Size of District	N	Men Median Salary	Range	N	Women Median Salary	Range
			Job Status *Category 1*			
Large	12	$24,385	$20,105-34,000	3	$19,000	$12,200-26,000
Medium	31	$23,901	$16,000-37,700	7	$21,842	$12,000-25,598
Small	28	$23,259	$17,000-32,470	5	$21,139	$17,800-25,000
	71			15		
			Job Status *Category 2*			
	N	Men Median Salary	Range	N	Women Median Salary	Range
Large	14	$21,850	$16,500-29,796	9	$19,500	$14,175-24,000
Medium	19	$20,300	$10,000-28,858	4	$19,749	$10,500-26,300
Small	13	$18,810	$16,500-25,000	9	$19,855	$18,000-25,000
	46			22		
			Job Status *Category 3*			
	N	Men Median Salary	Range	N	Women Median Salary	Range
Large	11	$20,057	$15,000-24,492	9	$18,330	$14,281-24,492
Medium	22	$17,118	$13,000-23,818	11	$14,625	$ 9,160-23,225
Small	13	$17,015	$14,000-20,269	7	$17,550	$13,000-22,000
	46			27		
			Job Status *Category 4*			
Size of District	N	Men Median Salary	Range	N	Women Median Salary	Range
Large	3	$13,402	$10,000-27,176	5	$14,744	$13,000-19,000
Medium	9	$15,500	$11,000-18,892	6	$14,422	$10,500-19,676
Small	5	$12,000	$ 9,900-15,044	7	$12,295	$ 9,000-15,044
	17			18		
			Job Status *Category 5*			
	N	Men Median Salary	Range	N	Women Median Salary	Range
Large	2	$14,044	$12,000-16,188	1	$12,000	$12,000-
Medium	2	$11,500	$ 9,000-14,000	2	$ 9,500	$ 7,000-12,000
Small	4	$ 8,680	$ 8,070-12,000	6	$ 9,430	$ 7,000 12,000
	8			9		

tricts report a paternity leave program. Most districts report that men and women are recruited into new positions through the same channels. Listed most frequently as sources for new personnel were friends or colleagues, university placement offices, and advertisements posted in graduate schools.

State Education Departments

Questionnaires were sent to each of the 50 state education departments (SED) and the education departments of six territories. Twelve states returned blank questionnaires or letters marked not applicable, or no educational researchers, or indicated no job titles as educational researchers. No responses were received from 14 departments. Response rate for the questionnaire, then, was 73% (41/56), but the effective sample for analysis is based on the education departments of 28 states and two territories (54%) that provided job titles and salaries which the education departments themselves defined as "educational researchers."

TABLE 9: OCCUPATIONAL SEGREGATION BY SIZE OF DISTRICT WITHIN JOB STATUS CATEGORIES

	Males Only		Females Only		Both M & F		Total	
CATEGORY 1	N	%	N	%	N	%	N	%
Large	9	75	2	17	1	8	12	100
Medium	23	77	3	10	4	13	30	100
Small	28	85	4	12	1	3	33	100
CATEGORY 2								
Large	5	36	2	14	7	50	14	100
Medium	13	76	0	-	4	24	17	100
Small	11	69	3	19	2	12	16	100
CATEGORY 3								
Large	0	-	1	13	7	87	8	100
Medium	7	44	1	6	8	50	16	100
Small	9	56	4	25	3	19	16	100
CATEGORY 4								
Large	1	17	3	50	2	33	6	100
Medium	3	33	2	22	4	45	9	100
Small	1	17	1	17	4	66	6	100
CATEGORY 5								
Large	1	50	0	-	1	50	2	100
Medium	1	33.3	1	33.3	1	33.3	3	100
Small	3	38	4	50	1	12	8	100

Job Titles and Median Salaries

The data which follow are based on full-time positions (only 3 states noted part-time educational research positions, primarily consultants). The same categories described previously for school districts were used in this analysis; one (highest in status and salary) to five (lowest in status and salary). (No Category 6 positions were reported.)

Tables 10, 11 and 12 show a consistent trend: in most states, women are in low rather than high status jobs in terms of salary and job titles. There is only one state in which a female educational researcher holds the highest job status category, compared to 22 states (81%) where men are exclusive holders of the highest status and salary reported for educational researchers.

TABLE 10: NUMBER OF STATES REPORTING MALES ONLY, FEMALES ONLY, OR BOTH MALES AND FEMALES IN JOB STATUS CATEGORIES

Job Status	Males Only		Females Only		Both Males and Females		Total N (of states)	
Category	N	%	N	%	N	%	N	%
1 (highest)	22	81	1	4	4	15	27	100
2	7	44	1	6	8	50	16	100
3	8	38	3	14	10	48	21	100
4	2	17	3	25	7	58	12	100
5 (lowest)	1	20	3	60	1	20	5	100
Total	40	49%	11	13%	30	37%	81	100%

In terms of absolute numbers (Table 11), men are consistently found in higher status job categories with 85% of the top job status category male and 15% female. This ratio is inverted for the lowest category. Over all job categories reported in this survey, there are two men employed in SED's for every woman (326 men and 158 women).

Responsibilities, Affirmative Action and Maternity/Paternity Policies, & Recruitment Sources

SED's were asked whether females are assigned management responsibilities with the same frequency as males (21 yes, 1 no, 8 no response). These responses are not consistent with the data presented on job status and salary distributions for women.

Ninety percent (27) indicated their department has adopted an affirmative action plan. Three states answered no, and two states indicated the affirmative action plan is informal or in the process of being adopted.

TABLE 11: NUMBER OF MEN AND WOMEN IN CATEGORIES 1-6: SED's

Job Status Category	Men N	Men %	Women N	Women %	Total of Individuals N	Total of Individuals %
1 (highest)	52	85	9	15	61	100
2	69	81	16	19	85	100
3	179	63	105	37	284	100
4	24	59	17	41	41	100
5 (lowest)	2	15	11	85	13	100
Total	326	67%	158	33%	484	100%

Maternity leave policies (without loss of status and benefits) are generally available for women (80% of SED's report maternity leave policies). However, these policies do not apply equally to men.

The recruitment sources which SED's have found most useful were reported by 24 (of the 30) states. Friends or colleagues in universities are still the course considered most useful by SED's. The states show some reliance on state personnel and civil service offices. Sex differences were not evident.

R&D Organizations

The sample of research and development organizations employing educational researchers was developed from the National Institute of Education's list of R&D labs and centers and by searching the addresses of members of AERA given in the *1971-72 Directory*. Of the 59 questionnaires mailed (20 R&D labs and centers, 39 other research organizations), replies were received from 35 organizations (59%). Ten organizations stated they are not basically in educational research, lack staff to provide salary data, or that salary data is not available because of company policy. The data which follow are based on the questionnaires completed by 25 R&D organizations (42% of the original mailing).

TABLE 12: SALARY MEDIAN AND RANGE FOR MEN AND WOMEN IN JOB STATUS CATEGORIES: SED's

Job Status Category	N	Men Median	Men Range	Women Median	Women Range
1	27	$21,200	$15,000-28,577	$19,625	$15,000-25,000
2	16	$17,840	$13,660-24,000	$18,000	$12,840-24,000
3	21	$16,250	$12,000-21,000	$15,000	$10,800-21,240
4	12	$12,773	$10,329-18,000	$12,000	$ 9,612-16,900
5	5	$10,450	$10,200-10,700	$10,000	$ 8,726-10,200

TABLE 13: NUMBER OF R&D ORGANIZATIONS REPORTING MALES ONLY, FEMALES ONLY, OR BOTH MALES AND FEMALES IN JOB STATUS CATEGORIES

Category	Males Only N	Males Only %	Females Only N	Females Only %	Both Males and Females N	Both Males and Females %	Total N of R&D Org. N	Total N of R&D Org. %
1 (highest)	7	35	1	5	12	60	19	100
2	4	21	1	5	14	74	17	100
3	5	28	1	6	12	66	17	100
4	4	21	2	11	13	68	17	100
5	—	—	4	40	6	60	9	100
6 (lowest)	—	—	1	33	2	67	3	100

Job Titles and Median Salaries

Because of the limited number of employees in part-time classifications, the data which follow are based on full-time positions only.

The data in Tables 13, 14, and 15 present a consistent picture of lower status and salaries for female as compared to male employees within the R&D organizations. Table 13 shows that there are seven R&D organizations with males only in job status category 1; conversely, at the bottom of the job status categories there are five R&D organizations with females only in categories 5 and 6 (none with males only). Most organizations do have both men and women in each job category, but where there are men only and women only, women are found in the lower ranks in employment status salaries.

In terms of absolute numbers, there are 914 male (60%) and 617 female (40%) employees in the R&D organizations in the sample. The proportions of men and women within the job status categories do not reflect the overall 60-40 ratio, however. The percentage of men in the highest job status category is 88% and the percentage of women is only 12%. There is a consistent decrease in the percentages of men for each category, to a low of 19% for category 6, and a corresponding increase in the percentages of women for each category, to 81% in category 6.

Similarly, the salary data in Table 15 are unfavorable for women compared with men. With only one exception (in category 5) the median salaries reported for males within categories are higher than those for females. In category 1, for example,

TABLE 14: NUMBER OF MEN AND WOMEN IN JOB STATUS CATEGORIES: R&D ORGANIZATIONS

Category	Men N	Men %	Women N	Women %	Total Number of Individuals N	Total %
1 (highest)	207	88	28	12	235	100
2	278	74	97	26	375	100
3	197	69	87	31	284	100
4	192	40	290	60	482	100
5	30	29	73	71	103	100
6 (lowest)	10	19	42	81	52	100
Total	914	60%	617	40%	1531	100%

the male median salary is $30,000 and the female median salary is $26,200. The salary ranges reported also tend to favor men consistently within each job status category (with the exception of the two lowest job status categories, 5 & 6).

Responsibilities, Affirmative Action and Maternity/Paternity Policies, & Recruitment Sources

Sixteen organizations said females are assigned management responsibilities with the same frequency as males, six said *no*, and three did not check a response. These responses are not consistent with the data on job status and salary distributions for women.

Twenty-one of the organizations (84%) stated their organization has adopted an affirmative action plan. Two organizations indicated the policy was not written or was unofficial, one said no, and one organization did not respond to this question. Eighty percent reported maternity leave policies; 20% reported paternity leaves.

Twenty-one (of the 25) R&D organizations indicated which recruitment sources were most useful for staffing purposes. The four most useful sources for recruitment are friends and colleagues in universities, placement offices, circulation of notices to major graduate schools of education, and placement services at professional meetings. These sources of recruiting did not differ for men and women. The major thrust of affirmative action policies is to provide wider sources of recruitment, and these do not appear to be useful or else are not in use by R&D organizations in educational research. The *Educational Researcher* is the one publication received by every AERA member, yet it is rarely used by major employers of R&D personnel.

Conclusions

Women as students. Although most institutions do not report discriminatory practices in their admission or recruitment processes, fewer women than men enroll in these programs. In 1973-74, of the institutions responding, 69% of the doctorates awarded were granted to men and 39% were granted to women. Thus, the labor pool for women with the doctorate in education is smaller than for men.

Women as faculty. Twenty-four percent of all faculty members in the schools of education in this survey are women. They make $1,000 a year less than their male counterparts in most faculty ranks, and move up the faculty ranks and earn full professorial standing with tenure less frequently than do their male colleagues.

Women as employees. Data from school districts, state departments of education and major R&D organizations show that women consistently fall in the lower job ranks as determined by responsibility and by salary. Within job categories, including those at the lower end of the rankings, women are paid less than their male counterparts.

The recommendations below are based upon the data compiled in this study, including those suggestions contained in the open-ended portions of the questionnaires:

1. AERA should:

a. Adopt affirmative action policies for its own staff, journals, and all other affairs of the organization.

b. Advocate that organizations hiring AERA members adopt affirmative action plans, including state and local school districts as well as research organizations.

c. Appoint a standing committee on the education and employment of women in educational research.

d. Desionate a central-staff AERA individual to be responsible for information on women.

TABLE 15: SALARY MEDIAN AND RANGE FOR MEN AND WOMEN IN JOB STATUS CATEGORIES: R&D ORGANIZATIONS

Job Status Category	N*	Men Median	Men Range	Women Median	Women Range
1 (highest)	20	$30,000	$20,000-38,200	$26,200	$17,262-31,743
2	19	$22,164	$17,600-32,400	$18,700	$13,500-27,600
3	18	$17,500	$13,620-26,000	$15,950	$ 8,922-20,750
4	19	$13,350	$ 9,800-22,500	$12,368	$ 7,320-19,500
5	10	$10,200	$ 8,640-13,000	$10,852	$ 6,900-15,241
6 (lowest)	3	$ 9,625	$ 8,474-11,957	$ 9,156	$ 8,400-12,492

*Number of R&D agencies with individuals in the job category.

e. Organize training sessions concerning sexism in education with regard to employment and programs/policies.

f. Review job-placement procedures and services in publications and at conventions to insure that discrimination is eliminated.

g. Maintain a list of any national data banks of qualified candidates for positions, e.g., in state departments of education, in educational administration, etc. A listing of data banks available for use by individuals and employers can be published annually in *ER*.

h. Encourage expanded advertising in *ER* to reduce the discriminatory effects of informal networks between colleagues.

i. Advocate that lists of external experts submitted to federal agencies and other requestors include women as consultants, panelists, speakers, etc.

j. Establish a formal policy statement regarding the ethics, conduct and publication of research.

2. AERA journals should:

a. Establish editorial guidelines for discriminatory language usage and sex role stereotyping.

b. Insure that all reviewing of articles is blind.

c. Insure adequate coverage of issues relevant to sex bias in education.

3. Employers of educational researchers should:

a. Publicly identify, as an organizational priority, the elimination of discrimination against women.

b. Adopt affirmative action plans.

c. Actively seek female applications for positions at all levels.

d. Eliminate sex discrimination in terms of promotion, transfer, recruitment, salary status, selection for training including apprenticeship.

e. Establish career ladders for personnel within an organization.

f. Analyze all personnel policies and eliminate any that directly or indirectly support discriminatory practices, including policies concerned with leaves of absence, pregnancy, part-time employment, and child-care services.

4. Universities as educators should:

a. Recruit women into educational leadership programs as well as programs of quantitative methodology.

b. Allocate financial support independent of marital status.

c. Publicize their commitment to the employment of women in leadership positions.

d. Establish and maintain extensive counseling services, especially for female doctoral candidates who often lack role models and are unable to establish "protege" relationships.

e. Collect data to monitor access,

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Modifying the Role and Status of Minorities in Educational R&D: A Much Needed Undertaking

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It would not be surprising or inaccurate to say that the role of minorities is small and their status relatively low within the sphere of educational research and development (R&D) in the United States. There are comparatively few prominent minority members in the R&D community, and as a consequence, minorities have had little impact on a field that has large effects on minority people. For example, a number of social and educational programs have surfaced from the initial efforts of R&D, and those programs have traditionally involved minorities as participants, but minority involvement in related R&D efforts has been meager. There are a host of reasons for the less than favorable situation of minorities in R&D. Most of the reasons are too involved to discuss here; however, given the present conditions, a number of occurrences could elicit positive change. For instance, the American Educational Research Association (AERA), the largest educational research organization in the country, could play a significant part in creating an atmosphere that would enhance the involvement of minorities in R&D. Most of the efforts in modifying the role and status of minorities must take place at institutions and agencies where educational researchers are trained and employed if substantive results are to be seen. Nevertheless, AERA can play a very visible and significant role in promoting increased participation of minorities in R&D. However, if AERA is seriously concerned with the enhancement of the role and status of minorities in R&D, one of the first steps the organization could take is an inward look. For within AERA there are a number of areas that could be addressed which would initiate more minority participation in R&D, and this will be discussed in this paper.

The Importance of Minority Involvement in R&D

In this country, educational R&D plays a crucial part in policy making and program implementations within educational settings. The impact from R&D is often quite substantial, and the impact is often amplified in minority communities because the initial research may have often been conducted there. Because of the effects of the ensuing research-related developments, the involvement of minority researchers is essential. Campbell (1975) stated that this country has a large and sophisticated commitment to educational R&D. If this is the case, minorities should have an integral part in meeting that commitment as significant members who affect the direction of R&D in this country. This becomes apparent when one considers the importance of many educational decisions affecting minority children which arise from R&D efforts.

It is the belief of Schutz (1973) that within educational R&D lies the most effective means by which the human capability for solving the inevitable problems of our future is assured. Based on Schutz's view, it is necessary that the role of minorities in R&D becomes broader, for many of the educational problems within minority communities have yet to be fully addressed. It is only fitting that minorities become more involved in a process that so often has implications for minority people. Furthermore, the most likely inclination of a number of minority researchers would be to address questions related to minorities, if not specifically, at least in a general fashion.

Thus, there is a need for more minorities in R&D who will then focus on many of the problems concerning minority people. In addition, because of their backgrounds and experiences, minority researchers will often bring quite different perspectives to educational research. Therefore, one important means to modify the role and status of minorities in R&D is to increase the number

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of individuals trained in the field, which also should favorably affect the state of R&D in this country.

The number of minorities with doctorates remains relatively small. For instance, in 1976, blacks made up only 4.2 percent of all Ph.D.'s in this country (Gilford & Snyder, 1977). Furthermore, the number of blacks receiving doctorates decreased 4.7 percent in 1978 from 1977; as a result of the U.S. citizens and non-U.S. citizens with permanent visas who were doctorate recipients for 1978, only 4.1 percent were black (Gilford & Syverson, 1978, 1979). It is apparent that very little has changed when Brown (1973) was moved to estimate that approximately only two percent of all educational research comes from minority groups, and of that proportion, only a small number are in positions to influence research that affects the lives of minority people. Acknowledging that the role of AERA is limited, Brown suggested that the organization use its influence to support graduate fellowships for minorities, thereby getting more minorities in graduate programs.

The Possible Role of AERA

External efforts to enhance the role and status of minorities in R&D by AERA could be of the nature Brown suggested, but of even greater significance would be the undertaking of modifying efforts within its own organizational structure. For just as minorities are not an integral part of the R&D network and community, they are not an integral part of AERA. This could be remedied to a certain extent by insuring greater minority participation in AERA-related activities. For instance, by insuring that minority members serve on significant committees, such as the Research Training Committee, the Publications Committee, and various Program Committees minorities would play a greater role within AERA. Furthermore, by serving as members on editorial boards of AERA-sponsored publications and as program readers, minority researchers will impact upon the organization's related R&D activities. Through contact and exposure, such involvement would provide minority members of AERA with greater access to the R&D network. It would also provide AERA and its members with valuable perspectives from minority researchers.

Other activities that AERA could undertake in efforts to modify the role and status of minorities in R&D would be the continuation of the presessions, initiated by Ronald Braithwaite and funded by NIE, which were aimed at minority graduate students. With regards to minority professionals engaged or interested in R&D, the organization could ensure that its research training institutes and other continuing education activities (presessions, postsessions, special conferences, workshops, etc.) have solid representation of minority participants. Because most of the targeted individuals would be under budget constraints, AERA could promote greater participation by awarding stipends that might defray the expenses of travel, housing, meals, and program costs. The organization could also sponsor collaborative research workshops where participants would be invited to brainstorm research topics and/or plan research projects in a "think tank" approach. AERA could then ensure that a significant proportion of minority researchers would fully participate in such an activity. Involvement in that type of atmosphere would stimulate professional growth for all participants and the minority participants would be able to share their particular experiences and views with others and gain exposure and access to the R&D network, not to mention the involvement in major research efforts.

Regarding additional efforts that could be undertaken by AERA to modify the role and status of minorities in R&D, it was of interest to find that in a survey report by Tittle, Saario, and Denker (1975), a number of recommendations were made to AERA. The recommendations addressed the concerns of women, but many are parallel to the concerns that minorities have had for years. Those recommendations are listed below with only the word minority substituted for terms of female gender.

To facilitate the modification of the role and status of minorities in R&D, AERA should:

(1) Adopt affirmative action policies for its own staff, journals, and all other affairs of the organization.

(2) Advocate that organizations hiring AERA members adopt affirmative action plans, including state and local school districts as well as research organizations.

(3) Appoint a standing committee on the education and employment of minorities in educational research.

(4) Designate a central-staff AERA individual to be responsible for information on minorities.

(5) Organize training sessions concerning racism in education with regard to employment and programs/policies.

(6) Review job placement procedures and services in publications and at conventions to insure that discrimination is eliminated.

(7) Maintain a list of any national data banks of qualified candidates for positions, e.g., in state departments of education, in educational administration, etc. A listing of data banks available for use by individuals and employers can be published annually in *ER*.

(8) Encourage expanded advertising in *ER* to reduce the discriminatory effects of informal networks between colleagues.

(9) Advocate that lists of external experts submitted to federal agencies and other requestors include minorities as consultants, panelists, speakers, etc.

(10) Establish a formal policy statement regarding the ethics, conduct and publications of research.

AERA should seriously consider those 10 recommendations and others that will certainly be generated, and incorporate them

into its structure. As was stated earlier, if the organization is favorably changing the role and status of minorities in R&D, it must first look inward.

Conclusion

Educational R&D is an important force in this country and minority involvement is essential because of the frequent impact of R&D on minority communities. AERA can play an influential role in ensuring that present minority researchers will have greater access to the R&D network and thus become an influence in the field. There are signs that AERA might be willing to take some positive steps in this regard. If AERA decides to wear a mantle of leadership in some of the areas discussed, ensuing ripples may be felt within other organizations and more importantly, within agencies and institutions. As a result, significantly favorable modifications of the role and status of minorities should occur.

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Participation of Women in the Educational Research Community

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The relationship between women's professional activity and their professional rewards recently has become a subject of major interest to social scientists. This emerging concern received impetus from the women's political caucuses within the various social science associations. This paper addresses a major issue underlying this concern: the need to discover whether or not women's professional activities, as well as their rewards for such activities, is commensurate with those of men.

The paper views the trend in female participation in AERA since 1965, as well as the productivity and rewards of these women compared to their male colleagues. The report is based upon three different types of data: 1) AERA records dating back to 1965; 2) a 1975 demographic survey of the total membership; and 3) a survey of approximately seven percent of the AERA membership conducted in early 1975.

I. Historical Survey of Female Participation in AERA Activities

A count by gender was made of individual participation in Association activities from 1965 through 1974. Gender was assigned on the basis of first name.[1] Names of indeterminate gender were omitted. This occurred most often in the annual meeting programs; even there, fewer than two percent of names were omitted in any year.

Annual Meeting

Sizable gains in annual meeting participation have been made by females in the last decade. The annual meeting has been the area of most consistent increase, as seen in Table 1. Females constituted 10% of all annual meeting participants in 1965; 12.9% in 1967; 13.6% in 1969; 16.8% in 1971; 18.6% in 1973; and 22.2% in 1975.

Level of female participation in the various roles in the annual meeting, however, has varied. Among primary authors on the program, the female participation rate has varied from 11.9% in 1965 to 23% in 1975. Among secondary authors, the level has increased from 12.1% in 1965 to 27% in 1975. Females chaired considerably more sessions on the program in 1975 than 10 years ago: from 2% in 1965 to 18.5% in 1975. But gains in the discussant role have been fewer: 4.3% in 1965 to 13.4% in 1975. As major invitational speakers, the pattern is erratic: one of 7(14.3%) in 1965; none at all from 1966 through 1970; one each in 1971 and 1973 (about 5%); two in 1972 (9%); and three in each of the last two years (13% to 15%).

Authors in Periodicals[2]

Percentages of female authors in AERA periodicals vary considerably over the ten year period. Female authors in the *American Educational Research Journal* (AERJ), for example, represented 17% of the total authors in 1965 and 3.6% in 1966. They rose to 9.3%, 13% and 21% in the next three years, but dropped in 1971 and 1972 to 14% and 12.7% before peaking at 18% in 1973. In 1974 the percentage dropped again to 16.3%.

The percentage of female authors in the *Review of Educational Research* (RER) was highest in 1965 (20.4%) then ranged from 12.5% to 17% during the years '66-'68, '70 and '73. However, the number dropped to 8% in each of 1969, '71 and '72, and fell to zero in 1974.

Governing Boards and Appointments[2]

Female representation on the AERA governing Council was nonexistent from 1965 through 1969, and has been six or twelve percent in each year since, depending on whether one or two women were elected.

Representation of women on standing Association committees—approximately 10% for the past two years—reached a record of 19% in 1972, up from 13% in 1971. That represents a considerable increase compared to the 3% and 7% levels of previous years in the same decade.

Representation on ad hoc committees in the Association ranged from as low as 1.7% (of 57 persons) to 8.4% (of 59 persons) during the first seven years of the decade examined, a period when proliferation of ad hoc committees actively worked on Association programs. Since 1972, however, no more than one or two ad hoc committees have been in existence, two of which are the women's committee and the students' committee. In those years, female representation increased to 25% (of eight individuals); 54.5%

(of 11 individuals) and 37.5% (of 16 individuals – including five out of six members on the women's committee).

In the decade examined, there were no females at all on the editorial boards or among the major editorships of any of the three AERA periodicals. Nor were there any on the editorial boards of the two major reference works produced during that time: the *Encyclopedia of Educational Research* and the *Handbook of Research on Teaching*. At the same time, eight to ten percent of the contributors in both reference volumes were women. However, the current review editor of the AERJ is a woman as was one of the volume editors for the seven-part *Readings in Educational Research* series and the appointment of a woman to succeed the current editor of the AERJ in 1976 recently was announced.

Use of females as reviewers by the AERJ did not occur until 1971 (27% to 3% in 1971 and 1972), but it has increased to 15% and nearly 25% in the past two years. Reviewers and consulting editors for the RER included 34.4% women in 1965, during which year AERA published the last topical issue on early childhood education, an area of specialization for many women researchers. However, the percentage of women reviewers dropped to 14%, 16% and 12% in the next three years and has ranged from 6% to 8% in the most recent six-year period.

Women Among the Total Membership

Until recently, only scattered es-

TABLE 1. AERA ANNUAL MEETING PARTICIPANTS

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
PRIMARY AUTHORS	260 M 35 F	336 M 48 F	462 M 62 F	555 M 84 F	705 M 115 F	959 M 207 F	1029 M 233 F	1096 M 250 F	1200 M 309 F	1194 M 320 F	1194 M 356 F
Per cent Female	11.9	12.5	11.8	13.1	14	17.8	18.5	18.6	20.5	21.1	23
SECONDARY AUTHORS	58 M 8 F	119 M 27 F	138 M 37 F	208 M 25 F	229 M 60 F	313 M 55 F	418 M 106 F	431 M 93 F	529 M 127 F	536 M 179 F	476 M 176 F
Per cent Female	12.1	18.5	21.1	10.7	20.8	14.9	20.2	17.7	19.4	25	27
SESSION CHAIRS	78 M 2 F	88 M 8 F	117 M 13 F	156 M 14 F	196 M 15 F	314 M 30 F	329 M 42 F	334 M 47 F	365 M 56 F	338 M 70 F	312 M 71 F
Per cent Female	2.0	8.3	10	8.2	7.1	8.7	11.3	12.3	13.3	17.2	18.5
DISCUSSANTS & CRITICS	22 M 1 F	27 M 0 F	46 M 2 F	72 M 3 F	110 M 7 F	151 M 9 F	158 M 13 F	168 M 12 F	189 M 34 F	202 M 31 F	264 M 41 F
Per cent Female	4.3	0	4.2	4.0	6.0	5.6	7.6	6.7	15.2	13.3	13.4
SPEAKERS	6M 1 F	10M 0 F	8M 0 F	11M 0 F	14M 0 F	14M 0 F	16M 1 F	20M 2F F	21M 1 F	19M 3 F	17M 3 F
Per cent Female	14.3	0	0	0	0	0	5.9	9.1	4.5	13.6	15
TOTAL	471	663	885	1128	1451	2052	2345	2453	2831	2892	2910
TOTAL Female	47	83	114	126	197	301	395	404	527	603	647
Per cent Female	10	12.5	12.9	11.2	13.6	14.7	16.8	16.5	18.6	20.9	22.2

Source: American Educational Research Association published Annual Meeting Programs, 1965-1975 (3/20/75)

timates from surveys sampling five to ten percent of the membership were available as guides to the number of women in the Association or the field. Preliminary results from the membership-wide demographic survey conducted last fall by the Association now have provided the most reliable estimate to date. With more than 4,000 responses tallied from 9,000 members surveyed, 26.3% are female and 70.3% male. An additional 3.4% did not indicate gender.

Major disciplines indicated by females in the major demographic survey are: education – 56.9% (627); psychology – 19% (209); statistics, mathematics or research methodology – 9.6% (106). Another 10.2% indicated disciplines not listed on the questionnaire, and fewer than 2% indicated sociology, anthropology, history, political science or philosophy. Comparable percentages for males are: education – 52.8%; psychology – 23.5%; statistics, mathematics or research methodology – 12%; 6.2% in disciplines not listed on the questionnaire; 2% in sociology, and 3.4% in anthropology, economics, history, political science and philosophy.

Of 1105 females indicating their highest degrees, 714 (65%) held doctorates and 339 held master's degrees (31%). Of 2955 males, 2362 (80%) held doctorates and 494 (16.7%) had completed their master's.

Primary work responsibility reported by the females in the survey were: 36.3% teaching; 15.4% students; 11.9% research; 10.1% management and administration of other than R&D; 9% evaluation, and 5.1% management and administration of R&D.

An interesting parallel emerged between males and females in reporting primary affiliations (or place of employment); for both sexes, 69% are employed by colleges or universities, 11% are with school systems, and 7% are with R&D organizations.

Conclusions from Historical Data

The greatest level of participation by women in the field has been the annual meeting, where a steadily increasing percentage of women in all roles has occurred. However, in committees and review boards, where participation is primarily by appointment, the involvement of women has been erratic.

II. 1975 Survey of AERA Members (7% Sample)

We turn now to the results of the survey of a randomly-selected sample of approximately equal numbers of men and women members conducted early this year.[3]

After inactive members were eliminated from the sample, a total of 309 males and 318 females were sent questionnaires. Responses were received from 240 women and 203 men, representing 75.4% of the women and 65.7% of the men. The overall response rate was 71%.

General Demographic Features

Age, Ethnicity and Marital Status

The age categories devised for the survey range from 20-24 to 60-64, with ages 30-34 the modal age category. The median age category was 35-39 years. There are no significant age differences between the female and male groups, although there is some slight tendency for there to be more women in the "under 35" year group. (This is probably related to the finding in the larger demographic survey that there are more female than male students.)

In terms of race and ethnicity, 89.2% of the respondents are Caucasian, 3.6% are Black, 1.6% are American Indian, and the Oriental and Spanish surname groups contribute 1.4% each to the sample, with a residual ("other") category of 2.5%. There are no significant differences between men and women in terms of ethnic and racial background.

Women in the sample are significantly less likely to be married than men. Almost four times as many women as men have *never* been married (31% *vs.* 8%), and only 50% of the women compared to 88% of the men currently are married. In addition, 16% of the women (*vs.* 3% of the men) are currently widowed or divorced. Fifty-four percent of the women do not have children, compared to almost 22% of the men who are not parents. Among those respondents who are now or ever have been married, 89% of the men and only 66% of the women have children. And among those respondents who do have children, women have significantly fewer children than men.

Education

As noted above, 80% of the men and only 65% of the women hold doctorates. AERA members of both sexes in this sample are more likely to hold Ph.D's (50%) than Ed.D's (22.6%) despite the fact that the majority of respondents claim education as their primary discipline. At the master's level, there are almost twice as many women as men (30% *vs.* 16%) The relationship between sex and highest degree is significant at the .001 level $X_4^2 = 17.79$).

Education is the primary discipline of 59% of the women and 54% of the men. Psychology is reported as the primary discipline by 25% of the men and 19% of the women, and statistics and mathematics are in third place, claiming 10% of both groups. Sociology, political science, anthropology, economics, history and philosophy were claimed by less than 4% of either sex. These figures mirror closely the larger demographic study.

Sex is clearly related to part-time enrollment in graduate school ($p = .03$). Sixty-nine percent of the women, compared to 59% of the men report part-time status during at least some period of their graduate school experience. This occurs despite the fact that women were less likely to have been married. One might speculate that the higher percentage of part-time students among women reflects the greater difficulty women may have in obtaining educational funds from public monies as well as from family resources. Overall, 64% of the males and females report part-time enrollment and 36% full-time enrollment.

Employment

The modal pattern for both sexes is full-time employment; however, somewhat more men than women (92% *vs.* 83%) are employed full-time, and over twice as many women as men are employed part-time (12% *vs.* 5%). (Three percent of the

males and 5.5% of the females reported themselves as unemployed.) These differences were significant at the .02 level.

In general, there is a strong relationship between sex and length of time in present organization. Men are more likely than women to have been employed in their present organization for 5 or more years (55% *vs.* 38% for women), and women are more likely than men to be in

TABLE 2.

INDICATOR		NONE		AT LEAST ONE		TOTAL		CHI SQUARE	
		N	%	N	%	N	%	1 df	p
AERA Division Committees	M	192	94.6	11	5.4	203	45.8		
	F	237	98.8	3	1.3	240	54.2		
	T	429	96.8	14	3.2	443	100	4.957	.02
AERA Editorial Board	M	189	93.1	14	6.9	203	45.8		
	F	234	97.5	6	2.5	240	54.2		
	T	423	95.5	20	4.5	443	100.0	3.964	.04
Article Reviewer	M	189	93.1	14	6.9	203	45.8		
	F	234	97.5	6	2.5	240	54.2		
	T	423	95.5	20	4.5	443	100.0	3.964	.04
Professional Societies other than AERA	M	9	4.4	194	95.6	203	45.8		
	F	27	11.3	213	88.8	240	54.2		
	F	36	8.1	407	91.9	443	100.0	5.962	.01
Attendance at AERA Annual Meetings during past 5 yrs. Ed.D.'s only	M	11	20.8	42	79.2	53	53		
	F	20	42.0	27	57.4	47	47		
	T	31	31.0	69	69.0	100	100.0	4.562	.03
AERA Article Reviewers: Ph.D.'s only	M	98	98.1	12	10.9	110	50.0		
	F	108	98.2	2	1.8	110	50.0		
	T	206	93.6	14	6.4	220	100.0	6.179	.01
Number of Books primary author	M	180	88.7	23	11.3	203	45.8		
	F	231	96.3	9	3.8	240	54.2		
	T	441	92.8	32	7.2	443	100.0	8.332	.004

table cont'd

TABLE 2, Continued

INDICATOR		NONE		AT LEAST ONE		TOTAL		CHI SQUARE	
								1df	P
Number of Chapters in books primary author	M	156	76.8	47	23.2	203	45.8		
	F	203	84.6	37	15.4	240	54.2		
	T	359	81.0	84	19.0	443	100.0	3.795	.05
Number of Monographs primary author	M	160	78.8	43	21.1	203	45.8		
	F	207	86.3	33	13.8	240	54.2		
	T	367	82.8	76	17.2	443	100.0	3.767	.05
Number of Journal articles primary author	M	70	34.5	133	65.5	203	45.8		
	F	125	52.1	115	47.9	240	54.2		
	T	195	44.0	248	56.0	443	100.0	3.12040	.0003
Number of Technical reports, primary author	M	119	58.6	84	41.4	203	45.8		
	F	163	67.9	77	32.1	240	54.2		
	T	282	63.7	161	36.3	443	100.0	3.716	.05
Number of Journal articles, secondary author	M	125	61.6	78	38.4	203	45.8		
	F	173	72.1	67	27.9	240	54.2		
	T	298	67.3	145	32.7	443	100.0	5.04732	.02
Primary authorship of workbooks, AERA primary professional affiliation	M	57	86.4	9	11.3	66	46.2		
	F	75	97.4	2	2.6	77	53.8		
	T	132	92.3	11	7.7	143	100.0	4.634	.03
Secondary authorship of other articles, non-AERA primary professional affiliation	M	130	96.3	5	3.7	135	46.6		
	F	139	89.7	16	10.3	155	53.4		
	T	269	92.8	21	7.2	290	100.0	3.772	.05
Primary authorship of Journal articles, Ph.D. non-AERA primary professional affiliation	M	12	16.0	63	84.0	75	51.0		
	F	24	33.3	48	66.7	72	49.0		
	T	36	24.5	111	75.5	147	100.0	5.067	.02
Secondary authorship of journal articles, Ph.D.'s AERA primary professional affiliation	M	13	39.4	20	60.6	33	50.8		
	F	22	68.8	10	31.3	32	49.2		
	T	35	53.8	30	46.2	65	100.0	4.514	.03

the two years or less category (42% *vs.* 26%, $p = .005$).

Work Setting and Responsibilities

Men and women are equally distributed across work settings. Sixty-seven percent of the women and 62% of the men listed colleges and universities as their primary places of work. School systems claim 15% of the men and 16% of the women, while research and development organizations employed 9% of the men and 5% of the women. Teaching is the major work responsibility of 46% of the women and 36% of the men, while research is cited by equal percentages of men and women. Men and women are equally likely to report research and evaluation as their major function, but men are somewhat more likely to report that they are involved in R&D management and other kinds of administrative work.

Participation in Professional Activities

A variety of participation indicators were examined (see Table 2), which we shall treat here in a summary way.[4] Overall, we find that participation is low, but this is particularly true of AERA sponsored activities.

Participation in AERA

Men are more likely to have been AERA members for a longer period of time. This probably is due in part to two factors: 1.) the very slight tendency for AERA men to be older; and 2) the greater number of female students in AERA. The same percentage of men and women have been members less than one year, however.

It was expected that this differential sex rate of participation observed in the historical survey would show up in the sample data. However, according to the sample survey, although there is a slight tendency for men to have a higher participation rate than women, in almost no case is this statistically significant. Since the percentages involved are so small (frequently less than 5% of the total sample), too much emphasis should not be placed on these differences.

Non-AERA Participation

Ninety-six percent of the men and 89% of the women belong to professional societies other than AERA ($p = .01$). This is the only statistically significant difference between men and women in terms of participation in non-AREA groups. Similarly, 81% of the men and 84% of the women attended at least one other meeting last year. These figures decrease when it comes to number of presentations; nevertheless, they are fairly high compared to the AERA presentation rate of the past five years. The percentages of men and women are fairly stable over different types of meetings. Forty-nine percent of the men and 43% of the women have given at least one presentation at a national meeting. Regional meetings have similar figures (49% and 42%), and invited conferences also are in the same general range, although slightly lower (41% *vs.* 35%). There is little difference between the sexes especially when one collapses the variables into no presentations *vs.* at least one.

In answer to the question, "Do you consider AERA your primary professional association?" only 33% of both men and women responded "yes." The lack of differences by sex on this variable, combined with the lack of differences in participation by sex, make it unnecessary to pursue these relationships further.

It is not surprising that people who do not consider AERA their primary organization are more active in other groups. If we examine the relationship between primary affiliation and AERA participation, the trend is clear—at least in terms of the activities that have enough participants to consider. People who identify AERA as their primary organization attend more AERA meetings ($p = .0002$) and more often have given at least one paper ($p = .001$).

Productivity

Productivity is measured by publications of various sorts. These include books, workbooks, chapters in books, monographs, articles in professional journals, other articles, and technical reports. Publications are counted separately for primary and secondary authorship.

Collapsing publications into categories of none or at least one, there are significant relationships between sex and primary authorship for edited books ($p = .004$), book chapters ($p = .05$), monographs ($p = .05$), journal articles ($p = .003$), and technical reports ($p = .05$). The only significant relationship for secondary authorship is for journal articles ($p = .02$).

In all of these cases, men are more productive than women, although it is important to emphasize that in *no* case is the relationship very strong. For example, looking only at primary authorship, we find the following: 11% of the men have edited at least one book, compared to 4% of the women ($\phi = .15$); 23% of the men compared to 15% of the women have written at least one chapter in a book ($\phi = .10$); 21% of the men compared to 14% of the women have written a monograph ($\phi = .10$); 66% of the men compared to 48% of the women have written a journal article ($\phi = .18$); and 41% of the men compared to 32% of the women have written a technical report ($\phi = .0$). The strongest relationship here is the one between sex and journal articles; however even this is not particularly pronounced.

Productivity and Primary Professional Affiliation

If these same relationships are examined controlling for whether AERA is the primary professional affiliation, we find that on primary authorship of an edited book, chapters in books, and journal articles, the relationship between sex and productivity holds up only when AERA is not considered the major affiliation. The relationship between sex and technical report authorship, on the other hand, disappears for the non-AERA people and holds up for those who consider AERA their major affiliation.

In addition, two new relationships emerged. These are between sex and authorship of workbooks for AERA primary people and secondary authorship of other articles

for non-AERA primary people. In all but the last case, the direction of the relationship favors men as more productive. It appears that the relationship between sex and productivity is contingent upon type of affiliation with AERA. Further, for most types of publications this is true of non-AERA primary people but not AERA primaries.

When we look at the zero-order relationships between AERA primary affiliation and productivity, we find that, although there are few statistically significant results, non-AERA primary people tend to be more active as primary authors. This trend reaches significance ($p = .02$) for authorship of journal articles and is generally true of other types of publications. When it comes to *secondary* authorship, the data vary, with some cases having greater productivity by AERA people and some showing the reverse. This suggests that part of the difference between AERA and non-AERA primaries is due to the tendency toward low productivity among AERA people.

TABLE 3.

	$20,00 & above		$12-20,000		Under $12,000		Total			
	No.	%	No.	%	No.	%	No.	%	Chi square 2df	p
SEX BY ENTERING SALARY										
M	46	23.7	86	44.3	62	32.0	194	47.0		
F	23	10.5	102	46.6	94	42.9	219	53.0		
T	69	16.7	188	45.5	156	37.8	413	100.0	14.03033	.0009
SEX BY CURRENT SALARY										
M	106	54.1	72	36.7	18	9.2	196	46.9		
F	65	29.3	121	54.5	36	16.2	222	53.1		
T	171	40.9	193	46.2	54	12.9	4.8	100.0	26.75712	0.0000
SEX BY CURRENT SALARY CONTROLLING FOR HIGHEST DEGREE: PhD										
M	56	53.3	41	39.0	8	7.6	105	49.8		
F	42	39.6	59	55.7	5	4.7	106	50.2		
T	98	46.4	100	47.4	13	6.2	211	100.0	5.92770	0.0516
SEX BY CURRENT SALARY CONTROLLING FOR HIGHEST DEGREE: EdD										
M	35	66.0	17	32.1	1	1.9	53	54.1		
F	15	33.3	28	62.2	2	4.4	45	45.9		
T	50	51.0	45	45.9	3	3.1	98	100.0	10.43782	0.0054
SEX BY CURRENT SALARY CONTROLLING FOR HIGHEST DEGREE: MA/MS										
M	11	36.7	10	33.3	9	30.0	30	32.6		
F	7	11.3	31	50.0	24	38.7	62	67.4		
T	18	19.6	41	44.6	33	35.9	92	100.0	8.34197	0.0154

Productivity and Education

Controlling for educational level also depresses the relationship between sex and productivity. The only relationship remaining that even approaches statistical significance is that between sex and primary authorship of journal articles among Ed.D.'s (and this is not strictly within the accepted limits of significance, p = .06). However, within most categories of authorship, the direction of the relationship between sex and productivity remains the same: men are slightly more productive than women. In some cases, however, women with M.A.'s or M.S.'s are slightly more likely to have at least one publication than are men of the same educational level. In some cases, the trend is also reversed when secondary, rather than primary, authorship is involved.

It appears, then, that differences in educational level also are an important part of the explanation of sex differences in productivity. But the tendency to maintain the direction of differences noted above even when stratifying by highest degree indicates that this is not the entire explanation.

It is necessary at this point to investigate further the relationship between education and productivity. If educational level and primary professional affiliation are simultaneously controlled, only two statistically significant relationships remain. These are both among Ph.D.'s only. The first is a significant relationship between sex and primary authorship of journal articles among non-AERA people (p = .05), with 84% of the men and 66.7% of the women having second authored at least one. The second significant relationship is for secondary authorship of journal articles and this time it holds for AERA people only. Sixty-one percent of the men and 31% of the women have had secondary authorship on at least one journal article (p = .05). In other words, differences in sex tend to disappear when both education and professional affiliation are controlled for all publications except journal articles. Considering the importance of journal articles in establishing professional reputation, this is an important difference.

TABLE 4: REGRESSION OF CURRENT SALARY ON SELECTED INDEPENDENT VARIABLES

Independent Variable	R^2	R^2 Change	F	p
Sex	.10737	.10737	18.201	.001
Age	.28480	.17743	13.524	.001
Marital Status	.28486	.00006		
Number of Children	.28737	.00251		
Education	.31778	.03041	7.813	.01
Length of Time in Present Organization	.35192	.03414	14.945	.001
Time of Most Recent Promotion	.37132	.01940		
Tenure Available	.37456	.00324	6.034	.05
Have Tenure	.39481	.02024	12.242	
Entering Salary	.52157	.12676	71.535	.001
Authorship-Secondary	.52176	.00019		
AERA Primary Prof'l Affiliation	.53123	.00947	4.721	.05
Authorship-Primary	.53657	.00533		

R^2 = .53657; F = 26.27336; p = .001

Multivariate Analysis of Participation and Productivity Variables

The relationships among various background factors and dependent variables denoting professional activity, including participation and productivity, were examined, using a linear additive model. These analyses are reprinted in detail in the Committee *Final Report* and tend to confirm the findings of the contingency tables (R^2 = .057 for *participation in AERA* and selected variables; R^2 = .094 for *other professional participation* and selected variables; R^2 = .208 for *primary authorship;* and R^2 = .161 for total authorship).

Salaries

Salary is used here as one operational definition of professional rewards. When we look at entering salaries, we note a significant relationship between sex and entering salary. In general, women are more likely to receive lower entering salaries than men. Forty three percent of the women, compared to 32% of the men, received under $12,000 as an entering salary in their present jobs. At the $20,000 and above level, men were more than twice as likely as women (24% *vs.* 11%) to command this range as an entering salary in their current position (p = .001).

Controlling for the highest degree held by respondent, the relationship falls below the level of significance, but the trend remains generally the same. Among respondents with Ph.D.'s men are more than twice as likely as women to receive $20,000 or above as an entering salary (19% men *vs.* 9% women). Among Ed.D. holders, men are more than four times as likely as women (2[illegible]% *vs.* 5%) to receive $20,000 or more, while 11% more women than men with Ed.D.'s entered below the $12,000 level. At the master's level, 14% of the men, compared to less than 2% of the women, entered at the $20,000 or above level, and women still outnumber the men in the "under $12,000" level by 7%.

When we look at current salary, we see a similar pattern. This is not unexpected, in view of the obvious link between entering and current salaries. Sex is strongly related to current salary, with 54% of the men and only 29% of the women earning

$20,000 or more. Women exceed men in both of the lower salary categories ($12,000 to $20,000, and under $12,000).

The relationship between sex and current salary, controlling for highest degree, remains intact at both the doctorate and masters levels. Among respondents who hold the Ph.D., 53% of the males, but only 39% of the females, earn $20,000 or above, while 56% of the women, compared to 39% of the men, earned between $12,000 and $20,000.

Among Ed.D holders, 66% of the men *vs.* 33% of the women currently earn $20,000 or more, and women again are more likely to be in the lower salary ranks (with 62% of the women Ed.D.'s *vs.* 32% of the men Ed.D.'s earning between $12,000 and $20,000, and more than twice as many women as men earning below $12,000). At the master's level, the pattern is upheld, with men more than three times as likely as women to be earning $20,000 or more.

Introducing length of time in present organization into the relationship between sex and salary, we find the ***strength*** of the relationship changes, but the direction remains consistent. Among individuals who have been in their current employment setting two years or less, the relationship between sex and salary is no longer statistically significant. But for those individuals who have been with the organization three to ten years, sex is significantly related to current salary. For the small group (N = 67) who have been in their present organizations in excess of ten years, salaries are noticeably higher for both men and women (83% of the men and 81% of the women at $20,000 and above). For those long term employees, the differences at the lower salary levels are less than those observed among workers with shorter periods of employment.

If we control simultaneously for primary responsibility and educational level, we find that among teachers and administrators, male and female Ph.D.'s earn comparable salaries. Among Ed.D.'s, however, males earn substantially more than females in both the teacher and the administrator roles. Further, among Ph.D. researchers, there were strong differences in salary between females and males, although the Ed.D. group was too small to permit any serious conclusions.

TABLE 5: REGRESSION OF TENURE ON SELECTED INDEPENDENT VARIABLES

Independent Variable	R^2	R^2 Change	F	p
Length of Time in Present Organiz.	.43765	.43765	71.444	.001
Age	.45526	.01761	6.631	.01
Sex	.46129	.00603		
Number of Children	.46408	.00279		
Authorship-Primary	.46702	.00294		
Authorship-Secondary	.47210	.00019		
Education	.46730	.00008		

R^2 = .46730; F = 22.55692; p = .001

In general, at every educational level, men usually earn more than women. While women tend to have fewer doctorates than men, even when they do have them, men earn considerably more money.

For those individuals whose current salaries exceed their entering salaries, there is no indication that this represents a change in responsibilities for either men or women. This increase in salary is probably more likely due to length of time on the job.

This differential in salary levels is interesting, particularly when we note that the age distributions for men and women are similar, and also that women are somewhat more likely than men to receive their doctorates before age 35 (combined Ph.D. and Ed.D. – 57% women *vs.* 49% men).

Promotions

Promotions served as our second index of rewards. The relationship between sex and most recent promotion indicates that women are almost twice as likely as men to have received *no* promotion during their entire employment period within their present organization (22% *vs.* 12%, p = .01). And controlling simultaneously for education and primary responsibility, we find that the relationship between sex and promotions maintained significance (p = .05) only for Ed.D.'s who teach.

Multivariate Analysis of Reward Variables

Salary

Salary, as noted above, may be conceived as one operational definition of professional rewards. Employing multivariate techniques to examine the various factors that contribute to current and entering salaries, the findings of the previous analysis are confirmed and extended in Table 4.

With current salary as the dependent variable, and sex, age, marital status, number of children, educational level, length of time in organization, time of most recent promotion, tenure, entering salary, productivity, and AERA affiliation as independent variables, a total of 53.5% of the variance can be explained. This is significant at the .001 level. The major contributing factors are age, entering salary and sex (change in R^2 is .177, .126, and .107, respectively), each of which is significant at the .001 level. As might be expected, older age, male gender, and a high entering salary correlate with high current salary. High educational level and an extended time in present organization each contribute approximately 3% of the total explained variance and are significant at the .01 and .001 levels. Other factors that are statistically significant are having tenure and not considering AERA one's primary professional affiliation. These, however, do not con-

tribute very much to the total explained variance.

Other Rewards

Three other indicators of professional rewards are promotions, tenure, and occupational prestige. Only the analysis using tenure provided interesting results, as shown in Table 5.

Looking only at people affiliated with organizations where tenure is available, over 46% of the variance in tenure can be accounted for, and almost 44% of this is explained by length of time in the organization. Another 1.7% is accounted for by age. All other factors are negligible, including productivity. Longevity appears to be the most significant factor in gaining tenure, rather than either achievement or ascription.

Summary

In sum, among the very limited group in AERA who participate in governance and other association activities, the proportion of women appears to be increasing, if somewhat erratically. But activity in AERA generally is limited to a very small group of women and men.

Productivity differences between men and women are slight. Where they reach statistical significance, the strength of the relationships usually is limited.

While participation and productivity rates of men and women show only slight differences, the reward system is clearly differentiated by sex. This is influenced most by level of education and length of time in the work organization. Admittedly, there is a greater proportion of males with doctorates, and more women than men have master's degrees. But even when women do hold the same degree as their male colleagues, their salary differences tend to persist, particularly among Ed.D. holders.

Some very recent gains by women—particularly within the last year—are noted in terms of promotions. And women who are long established in the field (i.e., in the same organization more than ten years) appear to do as well as men. But women in the less advanced stages of their professional lives receive lower salaries than men at the same stages.

In an oversimplified way, we can answer our original research question by concluding that

1) the most meaningful demographic difference between female and male respondents is educational level;

2) participation and productivity differences are slight; but,

3) reward differentials between the sexes are substantial.

Notes

[1]A full description of the method is in the Committee's *Final Report*.

[2]Complete data in tables are in the Committee's *Final Report*.

[3]A full description of the sample selection procedure is given in the Committee's *Final Report*.

[4]See Committee's *Final Report* for discussion of all participation variables.

AERA Council Actions on Women

In May, 1973, representatives of the Special Interest Group on Women in Educational Research petitioned the AERA Council to take direct action to improve the role and status of women in the field of educational research and in the affairs of the Association. At that and subsequent meetings, the AERA Council has passed a series of eleven motions dealing with aspects of the role of women. Following are those motions, with the dates each was passed.

- That a committee to investigate the status of women in educational research be formed; that its chairperson be chosen by the President of AERA from a panel of five candidates nominated by the women's SIG; that the majority of members on the committee be women; and that the findings and recommendations of this committee be printed and distributed to the AERA membership. (May, 1973)
- That it is the sense of the Association Council that women should be appointed to committees and offices and nominated for elective offices commensurate with the number of women in AERA. (May, 1973)
- That the Executive Officer be directed to report annually to the Council on the number of women in the Association and to provide an analysis of the roles they are playing in various committees. (May, 1973)
- That AERA withdraw from joint sponsorship with Phi Delta Kappa of the annual research award. (May, 1973)
- That AERA supports the policy of open recruitment and urges employers of educational researchers to cooperate in spirit and practice to end discriminatory patterns in hiring and recruitment. (June, 1974)
- That the Council authorize the President to send an open letter to employers of educational researchers stating the above policy and urging that ample notice of vacancies be made through such publications as the *Educational Researcher* and diciplinary journals and that vacancies be filled from the pool of candidates developed through open recruitment. (June, 1974)
- That women have full opportunity for participation in the activities of the American Educational Research Association (May, 1975)
- That the American Educational Research Association supports the principle that women have full opportunity to participate in research training institutions and research organizations. (May, 1975)
- That the AERA continue for a period of two years the Ad Hoc Committee on Women, to carry on such activities as are here proposed as seem useful and fruitful (as the development of an effective roster of women who might be called upon for various responsibilities in the organization) with a charge to examine the Association's compliance with the foregoing resolutions and report to the Council on such compliance. (May, 1975)
- That the proposal that a handbook on women and educational research be published to commemorate International Women's Year be transmitted to the Publications Committee for their consideration. (May, 1975)
- That the Association explore and possibly report in December (1975) on the matter of child care services for the Annual Meeting. (May, 1975)

APPENDIX B

RBS Project Description

444 North Third Street, Philadelphia, Pennsylvania 19123 • (215) 574-9300

Research for Better Schools, Inc.

DEVELOPING A MODEL FOR INCREASING MINORITIES AND WOMEN IN EDUCATION R&D LEADERSHIP AND MANAGEMENT

Research for Better Schools, Inc. (RBS), a private, non-profit educational laboratory in Philadelphia, has received a three year grant from the National Institute of Education's Minorities and Women's Program to develop a model that delineates the process by which an external agency (such as an educational laboratory or university) can work with one or more State Education Agencies (SEAs) to help increase the participation of minorities and women in education R&D leadership and management. For the purposes of this project, education R&D includes but is not confined to research, development, dissemination, utilization, and evaluation.

RBS is specifying this model by identifying those practices and procedures which are most successful in the tri-state area of Pennsylvania, New Jersey, and Delaware where RBS is working closely with each SEA to increase the participation of minorities and women in education R&D leadership and management. RBS is using a three-pronged approach: publishing articles in state newsletters, conducting seminars/workshops on R&D technical and management skills, and providing technical assistance.

The publishing of articles in various state newsletters (twenty-three in the tri-state area) is intended to create and build awareness regarding the issues related to minorities and women in education R&D leadership and management. These articles address the current and potential contribution of minorities and women in education R&D leadership in the tri-state area, various training possibilities, resources (book reviews, lists of new publications, etc.), and sources for further information and technical assistance.

The conduct of seminars and workshops on R&D technical and management skills is intended to increase these skills in those minorities and women attending. The seminars are designed to address the unique needs of each state by addressing a basic R&D skill and then applying this skill to each SEAs' on-going efforts to increase the participation of minorities and women in education R&D leadership and management.

The provision of technical assistance is intended to help those minorities and women who need to develop or enhance their project skills and those researchers whose projects relate to the concerns of minorities and women. For example, information regarding possible funding sources, personnel and materials resources, and training opportunities have been provided. This technical assistance is primarily provided over the telephone and through direct correspondence. The impact of this technical assistance ranges from the funding of a proposal to a minority woman who received basic proposal writing information and skills through the project, to minorities and women being awarded conference/training opportunities that they learned of through the project.

APPENDIX C

Correspondence Regarding the Appointment of an SEA Liaison

STATE OF DELAWARE
DEPARTMENT OF PUBLIC INSTRUCTION
DOVER, DELAWARE 19901

KENNETH C. MADDEN
STATE SUPERINTENDENT
PUBLIC INSTRUCTION

WILLIAM B. KEENE
DEPUTY STATE SUPERINTENDENT

May
2nd
1980

Ms. Joanne B. Stolte
Director, Special Projects
Research for Better Schools
444 North Third Street
Philadelphia, PA 19123

Dear ~~Ms. Stolte~~ Joanne:

The Delaware liaison to your project from the Department of Public Instruction will be Ms. Barbara Philbin, State Specialist of Human Relations.

Please let me know if there is any additional information you need concerning this appointment.

Sincerely,

Bill Keene

William B. Keene
State Superintendent Designate

WBK:sg

STATE OF DELAWARE
DEPARTMENT OF PUBLIC INSTRUCTION
DOVER, DELAWARE 19901

KENNETH C. MADDEN
STATE SUPERINTENDENT
PUBLIC INSTRUCTION

WILLIAM B. KEENE
DEPUTY STATE SUPERINTENDENT

May
2nd
1980

Ms. Barbara Philbin, State Specialist
Human Relations
Department of Public Instruction
Townsend Building
Dover, DE 19901

Dear Barbara:

I am appointing you as the representative from the Department of Public Instruction to the RBS project to increase the participation of minorities and women in education R&D leadership.

You will need to contact Joanne Stolte, who is the Director of Special Projects for RBS, to see what will be expected of you in serving as liaison between the Department and RBS.

I am sure that you will be able to fit this in with your other activities; however, if there is some difficulty in accepting this appointment, please let me know.

With warmest personal regards, I am

Sincerely,

William B. Keene
State Superintendent Designate

WBK:sg
Attach.

cc: Ms. Joanne Stolte
Dr. Randall L. Broyles

APPENDIX D

Sample Agendas for Meetings with SEA Liaison(s)

AGENDA

RBS Minorities and Women Project

SEA Liaisons Meeting

Tuesday, July 8, 1980

Arrival	RBS Art Gallery (optional)
10:30	Project Update
10:50	Meeting Overview
11:00	Basic Parameters Regarding 1980 Workshop
12:00	Lunch
1:00	Specific Ideas and Plans for 1980 Workshop
1:30	SEA Role in 1980 Workshop
2:00	Tasks to be Accomplished for Workshop
2:15	Role of the SEA Liaison: with the RBS Minorities and Women Project and as part of the Model
2:30	SEAs' Operational Structure

AGENDA

RBS Minorities and Women Project

SEA Liaisons Meeting

Wednesday, November 19, 1980

Arrival	RBS Art Gallery (optional)
9:30	Specification of Liaison Selection Process
10:00	Determination of Ways Liaison Role Should Evolve
10:15	Review of Needs Assessment Seminar
10:45	Plans for the Needs Assessment Survey
11:30	Lunch
12:15	Update
	Awareness Building
	Technical Assistance
12:45	Specification of FY '80 Accomplishments
1:00	Overview of Direction for FY '81 (Year Two)
1:15	Suggestions for FY '81 (Year Two)

APPENDIX E

The Anticipated Outcomes of the RBS Minorities and Women Project

The Role of the SEA Liaison with the RBS Minorities and Women Project

ANTICIPATED OUTCOMES OF RBS MINORITIES AND WOMEN PROJECT

It is anticipated that at the end of RBS' three year Minorities and Women Project, the following outcomes will be achieved:

- Development and specification of a model that delineates the process by which an external agency (such as an educational laboratory) could work with one or more SEAs to help increase the participation of minorities and women in education R&D leadership and management.

- Increased awareness among educators within the tri-state area as to the current and potential contribution of and key issues related to minorities and women in education R&D leadership and management.

- Provision of incentive to some minorities and women to continue formal or informal training to acquire needed skills in order to assume leadership positions in education R&D within their LEA, ISA, or SEA.

- Encouragement/enabling of minorities and women to move upward in the LEA/ISA/SEA hierarchies through activities related to education R&D.

- Establishment of network of minorities and women in education R&D within the tri-state area for which RBS will play a facilitator role.

- Provision of in-service training designed to enhance the position of minorities and women in education R&D.

- Upgrading of the technical and management R&D skills of the minorities and women participating in the workshops.

- Upgrading of the R&D skills of those participating in the studies for which technical assistance is provided.

- Improvement in the development and implementation of the few, selected studies for which technical assistance is provided.

- An increase in awareness and sensitivity to R&D issues related to minorities and women among the RBS staff.

- Upgrading of training skills and knowledge base with regard to minorities and women in education R&D leadership among the RBS staff.

THE ROLE OF THE SEA LIAISON WITH THE RBS MINORITIES AND WOMEN PROJECT

The liaison is to act as the contact for the flow of information entering and leaving the state with regard to the RBS Minorities and Women Project. The liaison is to help refine and implement the RBS model for increasing the participation of minorities and women in education R&D leadership positions.

The principal responsibilities of the liaison are to:

1. Provide for effective coordination and communication between the RBS Minorities and Women Project and the SEA.

   - Attend a total of four liaison meetings per year at RBS
   - Clarify and interpret the goal and objectives of the RBS Project to SEA personnel
   - Coordinate the work of other SEA personnel helping with the RBS Project
   - Maintain communications with the state newsletter editors
   - Follow up on requests for information regarding project activities
   - Provide the RBS Project staff with carbon copies of all correspondence that promotes anticipated outcomes or validates the completion of an action item task.

2. Help to adapt the RBS model to the unique characteristics of the state.

   - Assess, clarify, and interpret the state's operational structure and resources and then communicate these findings to the RBS Project staff
   - Identify the mechanism for reaching the state-wide target audience
   - Integrate the activities of this project with activities within the state which have similar objectives
   - Notify the RBS Project staff of impending workshops, conferences, and/or meetings of institutions of higher education and state committees which are relevant

3. Help the RBS Project staff in the conduct of project activities (i.e., placement of newsletter articles, planning of workshops, and delivery of technical assistance).

   - Conduct a needs assessment under the direction of RBS Project staff as a prelude to developing workshop objectives and curriculum
   - Identify resources useful to the RBS Project (e.g., possible workshop sites)
   - Encourage participation in the RBS Project (e.g., solicit workshop participants, actively work with newsletter editors)
   - Follow up on requests for information from the state-wide target audience

APPENDIX F

Basic Information Describing Needs Assessment

DEFINITION OF NEED

Kaufman

Roger Kaufman has been the most prolific writer in the field of educational needs assessment. His definition of need is ubiquitous in the literature. It should be noted that his "discrepancy" definition has been severely criticized by other influential educators and conceptualists.

> "Need is defined as a gap between current outcomes or outputs and desired (or required) outcomes or outputs."

Scriven

Michael Scriven is the leading opponent of the discrepancy definition as proposed by Kaufman. His definition of need distinguishes between actual and satisfactory states rather than between current and desired (required) outcomes.

> "A needs X" means A is or would be in an unsatisfactory condition without X in a particular respect, and would or does significantly benefit from X in that respect; thereby moving towards or achieving but not surpassing a satisfactory condition in this respect."

Ellett and Schumener

A number of other writers, notably Fred Ellett and Betty Schumener, contend that a single definition of need cannot capture all of the ways in which we commonly use the term. Their analyses of "need" yield the following conceptualizations:

Norm-Based Needs. These stem from moral obligations ("One needs to keep promises"); legal obligations ("30% of the students of School A need to be bussed to School B"); and obligations derived from rules ("Students need to eat lunch on campus").

Subsistence-Based Needs. These refer to states of affairs in which persons lack the means for survival or well-being. For example, people need food, air, water, and shelter to survive. In a wider context students need a minimal mastery of certain skills to move into and survive in the adult roles.

Needs of Required Means. The lack of a means necessary for the attainment of some end (other than survival or well-being) distinguishes these needs. For example, the successful completion of a number of courses in English is required for graduation from most schools in universities in the United States.

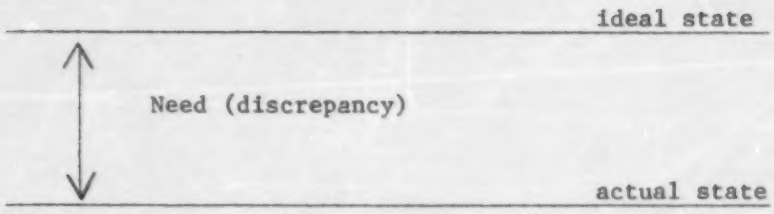
Needs of Desire. These refer either to a lack and desire of some object for its own sake ("Frankie needs a Darth Vader costume") or to a means to some desired objective ("The Smiths need to get a piano teacher for their daughter").

Needs of Conative Dispositions. These are related to the motivation of human behavior. For example, "Children need to feel approval from authority figures," and "She needs to express anger."

Ellett and Schumener suggest that defensible educational objectives or needs can only be derived from the norm-based or subsistence categories of need.

NEEDS ASSESSMENT MODELS

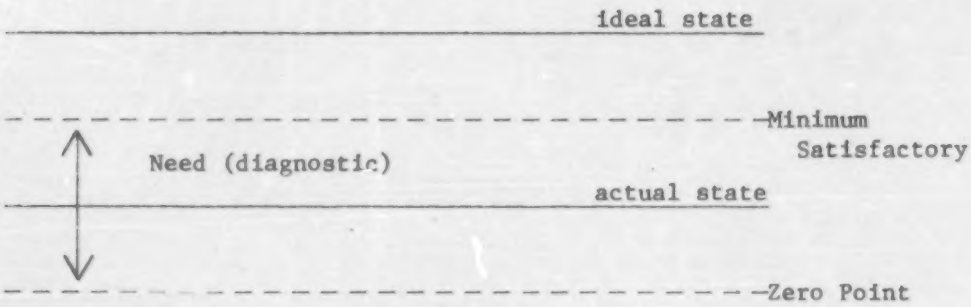
Discrepancy Model (Kaufman)



Ideal - Actual = Need

Note: If Ideal = Actual, Need = 0

Diagnostic Model (Scriven)



EXAMPLES OF NEEDS ASSESSMENTS

Topic*	Agency	Intended Use of Data	Image
Preparation of teachers to educate handicapped children in the regular classroom (Gear and Gable, 1979)	IHE/SEA	To establish training priorities to ensure teachers' receptivity to mainstreaming efforts and capability of providing for the educational needs of exceptional children	Program or Policy Justification
Reallocating Title I funds within a school district due to a mix of factors including declining enrollments and a pending desegregation decision (Slaughter et al., 1979)	LEA	To re-examine the distribution of Title I services	Program or Policy Justification/ Achieving Measurable Improvement
Testing public and practitioner perceptions of a state's educational system (Lyons and Harmon, 1978)	SEA	To provide information to the SEA as it formulates policies, selects priorities, and allocates fiscal resources in state and federal program areas	Food for Thought, Program or Policy Justification, Distributing Control over Educational Policy
Refocusing the R&D agenda of a regional educational laboratory (Smith et al., 1978)	Regional Educational Laboratory	To respond to major changes in the needs of consumers, priorities of funding agencies, and institutional capacity	Predicting Responses to Programs or Policies/Program or Policy Justification
Assessing Statewide Learner Needs (Van Fleet, 1974)	SEA	To identify learner needs, determine the criticality of learner needs, establish performance goals, and develop and assess improvement programs	Achieving Measurable Improvement
Determining Teacher Needs (Educational Improvement Center, Northeast, 1978)	ISA	To identify technical assistance needs of teacher association members across a variety of topical areas	Predicting Response to Programs or Policies/Program or Policy Justification

*A full citation for each of the needs assessments listed may be found on the reverse side.

PAIRED-WEIGHTING PROCEDURE FORM

Goal		Weight	Rank
1	=	3	7.3
2	=	4	6
3	=	3	7.3
4	=	5	3.3
5	=	8	1
6	=	5	3.3
7	=	3	7.3
8	=	7	2
9	=	5	3.3
10	=	2	10

Witkin, B.R. An Analysis of Needs Assessment Techniques for Educational Planning at State, Intermediate, and District Levels. NIE-G-74-0062

DISCREPANCY SURVEYS

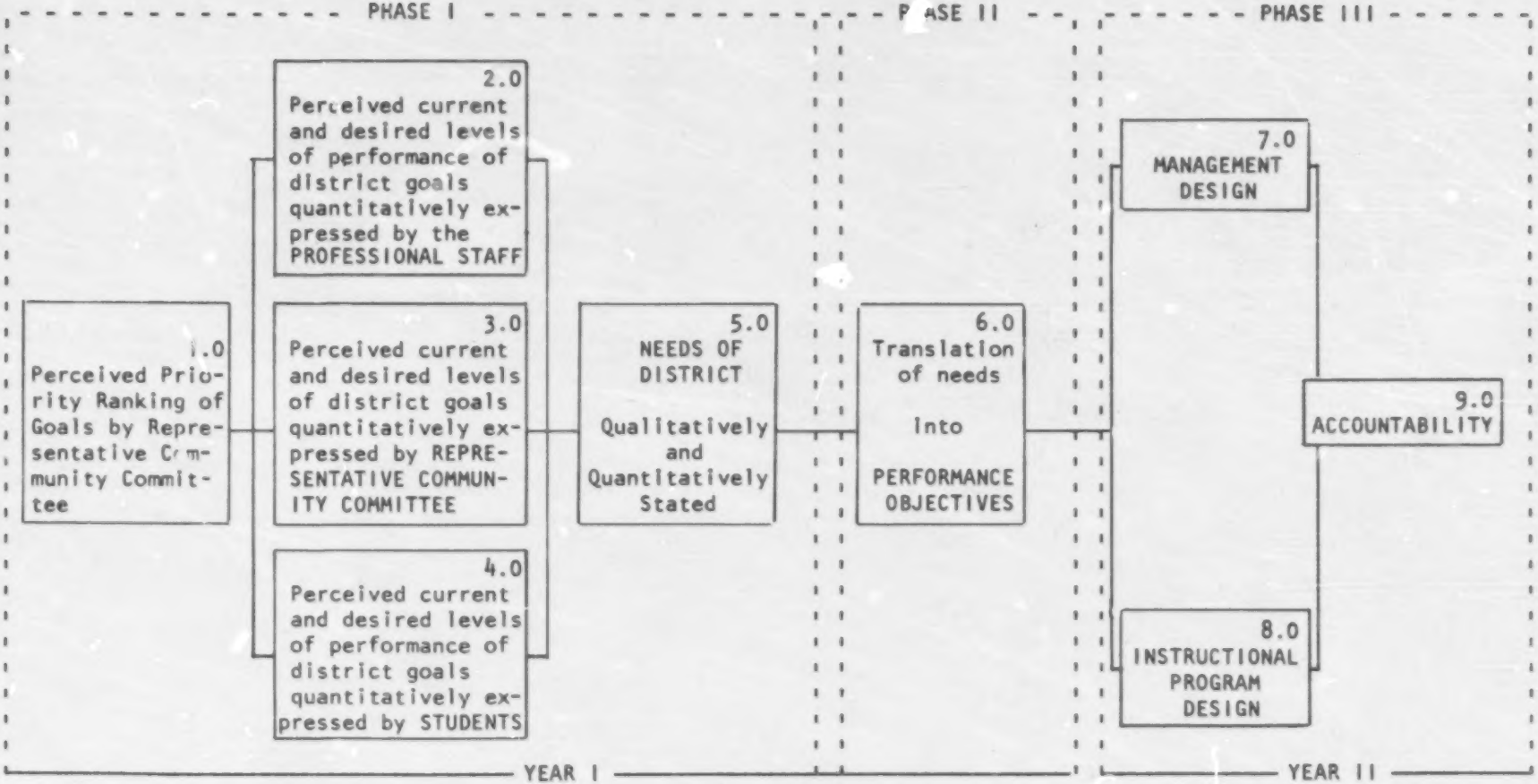
NAME	USE	EXAMPLES OF GOALS	INDEX OF NEED
Batelle Surveys	Secondary Schools or Colleges	• Our schools teach students to be self-reliant • Our schools do a good job of teaching mathematics • Every student in our schools is given experiences to develop in the fullest, in his/her own style, and to his/her own limit • Our courses of instruction are revised frequently enough to keep them current with a changing world	"Actual" - "Desired" Need Rating
Westinghouse Surveys	Secondary Schools	• Proficient in Written and Verbal Communication (English) - Use acceptable grammar & punctuation - Speak fluently & clearly - Use acceptable verbal patterns • Become Discriminating Consumer - Understand techniques for judging & comparing consumer products - Aware of consumer rights - Know budgeting & purchasing skills	Priority Ranking of Needs = Importance x Responsibility / Attainment
Institutional Goals Inventory	Colleges and Universities	• To help students acquire a depth of knowledge in at least one academic discipline • To help students develop a sense of self-worth, self-confidence, and a capacity to have an impact on events • To ensure that students who graduate have achieved some level of reading, writing, and mathematics competency	Profile of "IS" vs. "SHOULD BE" Ratings (No Index of Need)

NEEDS ASSESSMENT KITS

MODELS/APPROACHES	GRADE LEVEL	DATA SOURCES	METHODS		OUTPUT OF THE NEEDS ASSESSMENT
			IDENTIFYING DISCREPANCIES	ASSIGNING PRIORITIES TO NEEDS	
Alameda County Needs Assessment Model (ACNAM)	Elementary	• Survey information • Standardized test information in basic skills • Demographic data • School profile & additional student factors NO GOAL RATING SCALES	Descriptive	Decision matrix aggregates survey and other data	Profile
Center for the Study of Evaluation (CSE)	Elementary	• Survey and card sort • Student performance test data	Descriptive	Decision Rule: Priority value = Rated imp. x Probable increase in utility	Ranked List of Goals Ranked List of Needs or Discrepancies Profile
Phi Delta Kappa (PDK)	Elementary Secondary	• Forced choice card sort • Rating Sheets	Arithmetic Difference Score Weighted Formula	Top Ranking Discrepancies Weighting Procedure	Ranked List of Goals Ranked List of Needs or Discrepancies

PHI DELTA KAPPA NEEDS ASSESSMENT MODEL

A Model Program for Community and Professional Involvement



F-10

Witkin, B. R. An analysis of needs assessment techniques for educational planning at state, intermediate, and district levels. Haywood, Calif.: Office of the Alameda County Superintendent of Schools, 1977, p. 46.

REFERENCES

Educational Improvement Center Northeast, The northeast regional teacher needs assessment. West Orange, N.J.: Austin, 1978.

Evans, F. B., & Harmon, J. A. The Wisconsin educational sytem as perceived by the general public, teachers, LEA administrators, principals, and school board presidents. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978. (ERIC Document Reproduction Service No. ED 154 504)

Gear, G. H., & Gable, R. K. Educating handicapped children in the regular classroom: Needs assessment in teacher preparation, Journal of Research and Development in Education, 1979, 12 (4), 36-45.

Slaughter, H. B., Prentice, B. S., & Kennon D. Title 1 needs assessment: Parents are part of the team. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1979.

Smith, M. L., Northcutt, N., & Perry, J. H. A planning system for redefining mission and goals of an institution. Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978.

Van Fleet, D. Kentucky educational assessment program in Statewide Educational Needs Assessment (Hershkowitz, Ed.). Silver Spring, Md: 1974.

APPENDIX G

Letters of Support for Needs Assessment
from Chief State School Officers

STATE OF DELAWARE

DEPARTMENT OF PUBLIC INSTRUCTION
THE TOWNSEND BUILDING
P. O. BOX 1402
DOVER, DELAWARE 19901

WILLIAM B. KEENE
STATE SUPERINTENDENT

RANDALL L. BROYLES
HOWARD E. ROW
JOHN J. RYAN
ASSISTANT SUPERINTENDENTS

October
7th
1980

Ms. Joanne Stolte, Director
Special Projects Division
Research for Better Schools, Inc.
444 North Third Street
Philadelphia, PA 19123

Dear Joanne:

Recently I had the opportunity to review the progress of Research for Better Schools Minorities and Women Project. The intent of the project--to increase the participation of minorities and women in education R and D leadership/management--by developing a needs assessment is both an exemplary and commendable goal. Utilizing the needs assessment in the State of Delaware will further complement the equal education activities now being promoted and implemented in Delaware education programs.

Again, we at the Department extend our support for this effort and look forward to the opportunity to work cooperatively with Research for Better Schools and the states of Maryland, Pennsylvania and New Jersey as you strive to fulfill this very worthwhile endeavor.

Recognizing our mutual concern for equal education opportunities for all persons in all of our schools, I remain

Sincerely yours,

Bill

William B. Keene
State Superintendent

WBK:sg

cc: Ms. Barbara A. Philbin, State Specialist, Human Relations

THE STATE OF DELAWARE IS AN EQUAL OPPORTUNITY EMPLOYER AND DOES NOT DISCRIMINATE OR DENY SERVICES ON THE BASIS OF RACE, COLOR, NATIONAL ORIGIN, SEX, HANDICAP, AND/OR AGE.

J. B. S.

SEP 23

STATE OF NEW JERSEY
DEPARTMENT OF EDUCATION
225 WEST STATE STREET
TRENTON, N. J.

OFFICE OF THE COMMISSIONER
Post Office Box 2019

September 17, 1980

Ms. Joanne B. Stolte
Director, Special Projects
Division
Research for Better Schools
444 North Third Street
Philadelphia, Pennsylvania 19123

Dear Joanne:

I was pleased to have an opportunity to review the progress of the RBS Minorities and Women Project in New Jersey with you last Friday and, in particular, to learn of your plans to conduct a needs assessment regarding minorities and women in education R & D management. This is an area of importance where so often decisions are made and activities conducted without the benefit of data. The results of the RBS needs assessment will help fill a present void and provide a data base that will be invaluable.

I am pleased that my staff will be helping RBS in the design and development of this needs assessment and I look forward to receiving the results.

Please keep me informed of how things are proceeding and if you need additional cooperation, let me know.

Sincerely,

Fred

Fred G. Burke
Commissioner

G-4

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION
BOX 911, HARRISBURG, PA. 17126

September 30, 1980

THE SECRETARY

AREA CODE 717
787-5820

J. B. S.

Joanne B. Stolte
Research for Better Schools
444 North Third Street
Philadelphia, PA 19123

Dear Joanne:

The RBS Minorities/Women Project for increasing the participation of women and minorities in education r & d leadership/management positions is now in full swing and I want you to know that I appreciate the opportunity for our involvement in this worthwhile endeavor.

The Pennsylvania Department of Education is committed to affirmative action and we are constantly seeking methods of increasing the representation of minorities in our education leadership. The assessment to be conducted by your organization is a good beginning in helping us to reach our goals. I am looking forward to receiving the results of the assessment which I am confident will give us valuable information for future developmental programs.

I have reviewed the list of those from our state who have been invited to attend your seminar on October 29. Be assured that this group was well chosen for the task of adapting the needs assessment to Pennsylvania. If there is anything further we can do to assist, please advise.

Sincerely yours,

BL

Robert G. Scanlon

APPENDIX H

Organizations that Perform Educational R&D:
A First Look at the Universe

From Educational Researcher, December 1979. Reprinted with permission and courtesy of the American Educational Research Association for use within the RBS Needs Assessment seminar held October 29, 1980 in Philadelphia.

Organizations That Perform Educational R&D:

A First Look at the Universe

LAURE M. SHARP
and
JOANNE FRANKEL
Bureau of Social Science Research, Inc.

Most educational researchers are practitioners: investigators and analysts who study educational processes, who seek the answers to specific educational problems, or who look for new ways of implementing educational innovations and monitoring their outcomes. Few are concerned with studying their own participation in the research process and how the type of institution where they work could influence what they study and how they approach a problem. But for the social historian and the policy maker, it is precisely this "research system" in the aggregate that yields important clues as to the strengths and weaknesses of the enterprise and its likely future configuration. Yet, prior to the project described here, very little information was available describing this system. With the exception of certain well-known groups, we did not know the identities, skills, or interests of organizations conducting research and related activities in the field of education. Obviously, these three features are interconnected. This article draws on recent survey findings to examine in depth the characteristics of those organizations that were active research performers in 1977.

In the summer of 1976, the National Institute of Education (NIE) awarded a contract to the Bureau of Social Science Research to conduct a census of organizations performing educational RDD&E. The purpose of the project, which was termed ARROE (American Registry of Research and Research-related Organizations in Education), was essentially descriptive. It sought to determine how many organizations were doing educational research and related work, the nature of the institutions in which these organizations were located, the staffs they employed, the money they spent, and the topics they dealt with. The statistical analysis of the ARROE data base would begin to answer some important questions of concern to policy makers and to the education community itself. ARROE was thus designed to provide a map of the universe, which would create the basis for subsequent, in-depth investigations of various sectors and issues.

A second, but by no means secondary purpose of the ARROE project was to put in place an ongoing mechanism for the identification of organizations that constitute the educational RDD&E universe, in order to facilitate communication among performers. The computer file was to be maintained as a continous "registry" available for research and for other suitable activities, such as special purpose mailing lists. The registry file was formatted to generate a soon-to-be published directory of all such organizations, which will contain some descriptive material about each of them. Periodic updating of the directory is anticipated.

How the Study Was Conducted

Because ARROE was a first-time effort, considerable attention had to be devoted to boundary setting for the concept "educational

Laura M. Sharp, Research Associate and Assistant Director for Research Operations, Bureau of Social Science Research, 1990 M Street, N.W., Washington, D.C. 20036. *Specialization:* Application of survey techniques to studies in the area of Education.

Joanne Frankel, Senior Research Analyst, Bureau of Social Science Research. *Specialization:* Elementary education and program evaluation.

research and related activities." To qualify for inclusion, an activity had to be systematic and designed to establish new facts or principles (research); to invent new or improve existing solutions to educational problems (development); to assess the effects of existing programs or determine the feasibility of new ones (evaluation); or to disseminate R&D results. Typical exclusions were routine testing of students, periodic teacher workshops, and administrative evaluation of teacher performance. But boundary definitions were often difficult to establish. Reinterpretation of existing statistical sets might be called "research" by an academician, and "program review" by an administrator. These and other conceptual problems were addressed by the ARROE researchers with the help of three Advisory Committees drawn from many segments of the education and research communities.

To create a listing of potential performing organizations, a variety of sources was used including rosters of state departments of education, intermediate education agencies, local school systems, federal grantees and contractors, and authors of articles in 82 pertinent journals. The ARROE project succeeded in identifying some 6,300 organizations believed to be survey eligible; a more diligent search may have uncovered additional performers, but we assume that most of the major performing organizations were identified.

For the purposes of the ARROE project, organizations were assigned to one of three groupings or "sectors":

(1) The public education sector, which included state and intermediate education agencies, and local education agencies whose enrollment is 10,000 or greater;

(2) The academic sector, which included subdivisions of public and private two- and four-year colleges and universities;

(3) The private sector, which encompassed all other organizations, especially profit and nonprofit research and development organizations, but also hospitals, publishers, foundations, associations, and so forth.

The basic data collection approach consisted of a mail survey, coupled with extensive telephone follow-up, which asked questions about staff characteristics, levels and sources of funding, areas of specialization, projects and other organizational characteristics. A total of 6,346 organizations were contacted, and 81% responded. To be eligible for inclusion in the data analysis, organizations had to have conducted educational RDD&E activities during their last completed fiscal year. In addition, organizations outside the public education sector were asked to meet two other critera: a distinct organizational identity (e.g., a consistently used name and address), and appreciable autonomy from higher levels of authority in managing and carrying out educational RDD&E work. If these criteria were met, such organizations were treated as separate organizations even when they were divisions of larger entities. A total of 2,434 organizations were survey-eligible according to these criteria. These organizations were located in 1,530 separate institutions, as shown in Table I.

Key Findings

A great deal of detailed information is available in the ARROE file about performer characteristics and the nature of their activities. To date, we have only taken a first and necessarily rough cut at the data base in the expectation that we, and other interested researchers (to whom this base is accessible), will have the opportunity to analyze the data for the many special purposes they can serve. In the analyses we have performed to date, we have also made certain decisions which obviously affect the findings:

(a) We have not subjected the data to statistical adjustments, such as imputation for missing values;

(b) We have analyzed most data at the level of the organization rather than at the level of the institution, although for some purposes the latter may be more meaningful;

(c) We have made broad sector comparisons (public vs. academic vs. private), although for some purposes within-sector findings (e.g., the academic sector activities in instructional vs. research organizations) may be more informative.

TABLE I
Active Educational RDD&E Organizations, 1976-77

	Number of Organizations		Number of Institutions that House These Organizations
Public Education Sector	688	→ 631	37 State Education Agencies (SEA's) 193 Intermediate Service Agencies (ISA's) 401 Local Education Agencies (LEA's)
Academic Sector	1,268	→ 423	Colleges and Universities
All Others	478	→ 476	Miscellaneous Organizations
Total	2,434	→ 1,530	

Expenditures and Staffs for Research and Related Activities

The organizations which provided data to ARROE reported spending $734 million on educational RDD&E activities during their last fiscal year (usually 1976-77).[1] They also reported employing 22,300 full-time staff members who worked primarily on these activities. Funds and staff are distributed across sectors as shown in Table II. Specifically:

- 51% of the funds and 58% of the staff are located in the academic sector;
- 33% of the funds and 27% of the staff are in the private sector; and
- 16% of the funds and 15% of the staff are in the public education sector.

Specialties

Most organizations in the survey derive most of their income from activities other than educational research and related activities. Thus, it would be erroneous to assume that the growth of the field has led to the creation of specialized organizations devoting most of their efforts to educational research. Only in state and local education agencies did we find a preponderance of organizations whose primary mission was educational RDD&E. In the academic world, most of this work is carried out in organizations whose primary function is instruction (i.e., schools or departments of education, departments of educational psychology, etc.) (see Figure 1). Roughly half of the private organizations engaged in educational RDD&E can be described as research specialists; the others are a highly diverse group (see Figure 2).

Expenditure Levels and Funding and Staffing Patterns

Although a large number of organizations (2,434) were identified by ARROE as performers of educational research and related activities, many of these played a minor role as measured by funds expended for these activities. Figure 3 shows that 80% of all funds were spent by 20% of all organizations. However, there are very few giants in this universe: only two public agencies, 13 universities and 10 private sector organizations reported 1977 expendi-

Figure 1. *Types of academic organizations performing educational RDD&E.*

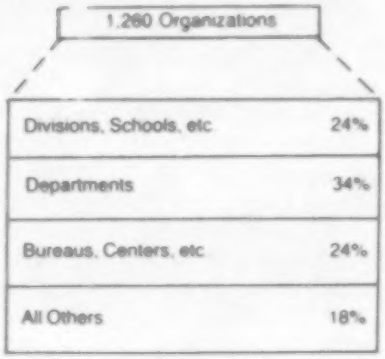


Figure 2. *Types of private organizations performing educational RDD&E.*

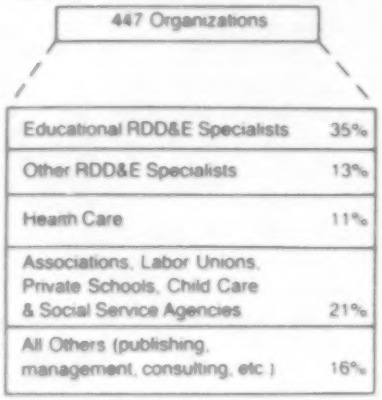


TABLE II
Distribution of Educational RDD&E Funds and Full-time Professional Staff by Type of Institution

Type of Institution	RDD&E Funds (In Millions)[a]		Full-time Professionals Primarily Involved in RDD&E[b]	
	Amount	Percent	Number of People	Percent
State Education Agency	$ 38	5	600	3
Intermediate Service Agency	26	4	1,100	5
Local Education Agency	54	7	1,600	7
Subtotal	$118	16%	3,300	15%
College/University	374	51	13,000	58
Private Research and Miscellaneous Groups	242	33	6,000	27
Total	$734	100%	22,300	100%

[a]Based on responses from 76% of respondents.
[b]Based on responses from 95% of respondents.

tures in excess of $5 million. Defining "major performers" more modestly as those with expenditures in excess of $1 million during fiscal year 1977, we found a total of 172 such organizations; most of these "major performers" are in the academic (53%) or private (34%) sectors. These major performers accounted for nearly 70% of all reported expenditures. Had we used a lower cut-off point for major performers (e.g., the $750,000 level, which Schutz [1979] recently mentioned as the current equivalent of a ZACH), the number of major performers would, of course, have been higher. The number of organizations with total expenditures between $500,000 and $1,000,000 was 127 in the ARROE survey (see Figure 3). But it seems clear that the nature of educational RDD&E in the United States is probably best understood by studying, in depth, a group of between 200 and 300 performers rather than the universe of over 2,000 initially identified through ARROE.

Further corroboration of the marginal nature of many of the organizations was evident from data on staff size. Among all responding organizations, 26% had no full-time professional staff at all and another 25% had only one or two full-time staff members. By contrast, the large performers ($1 million plus) generally operate with fairly large full-time staffs. The median number of full-time staff members was between 22 and 32 in various sectors (see Table III). In academic institutions, over two-thirds of these staff members hold doctorates, but this was only true of one-fourth to one-third of the staff members in other sectors. Education specialists predominate in public education and academic organizations, but in the large private sector organizations, more than half of the professional staff had obtained their degrees in other disciplines, most often in psychology or in another social science field.

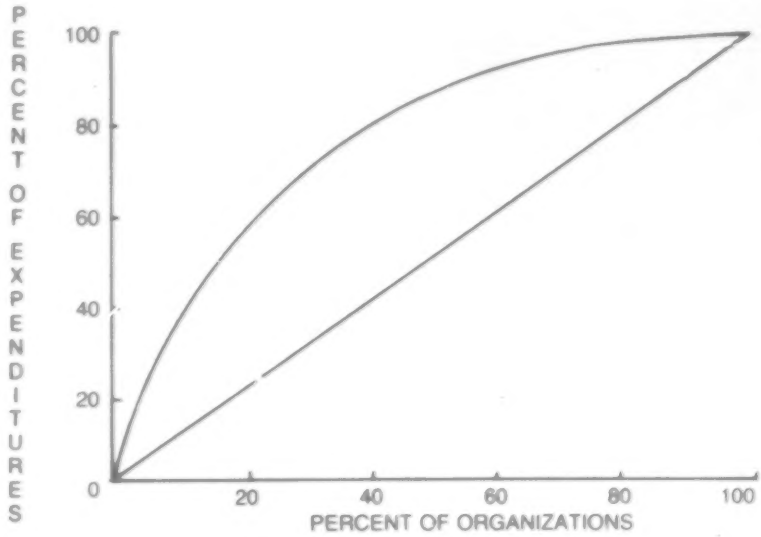
The dependence of educational researchers on funding from the federal government was dramatically demonstrated by the ARROE survey. Based on detailed funding data supplied by 887 reporting organizations, 53% of all educational research support came from federal sources (the proportion was higher—62% for the private sector) (see Table IV). The private sector appeared the most dependent on federal support (half of all organizations derived 60% or more, and a quarter 95% or more of their educational RDD&E funds from the federal government). And, not surprisingly, the survey shows that the work of many of the largest private performers is especially dependent on federal funding.

Focus of Activities

A wide range of activities is subsumed under the RDD&E label; ARROE attempted to group these into the major categories of research, development, dissemination, and evaluation and policy studies. Practically all organizations spend at least some of their funds for research, but research is emphasized most heavily in the academic and private sectors, while development and evaluation studies dominate in public education agencies. Dissemination emerged as the area of lowest emphasis, receiving the smallest allocation of funds by performers except for state agencies and large public school systems.

When it comes to specific topics, project and program evaluation is clearly the most widespread activity in all sectors, although the specific nature of evaluation studies will need to be examined more closely for "sector specialization." The available data suggest that federally sponsored evaluations account for a considerable portion of the revenues of private sector R&D firms, although federal evaluation funds are by no means confined to that sector. Some differentiation is evident with respect to other topics. Public agencies are heavily involved in curriculum issues, the needs of special student groups, and enrollment and demographic analyses. Academic organizations

Figure 3 *Cumulative RDD&E expenditures and percent of organizations involved*



Note. Data based on 1,848 reporting organizations.

TABLE III
Means and Upper Quartiles of Size of Professional Staff, by Sector for all Organizations and Large Organizations

	Public				
	State Education Agency	Intermediate Service Agency	Local Education Agency	Private	Academic
All Organizations					
Full-time staff, median[a]	8	2	1	4	2
Part-time staff, median	0	0	0	1	1
Full-time staff, upper quartile[b]	23	5	3	10	7
Part-time staff, upper quartile	2	2	1	4	4
$1 Million-plus Organizations					
Full-time staff, median	27	23	31	32	22
Part-time staff, median	2	0	1	4	14
Full-time staff, upper quartile	41	33	52	70	46
Part-time staff, upper quartile	6	1	3	8	36

[a]Fifty percent of all organizations employed at least this number
[b]Twenty-five percent of all organizations employed at least this number

appear most active with respect to teacher performance evaluation. Private organizations tend to address a wide spectrum of topics, and within that sector, the data suggest some specializations of activities. For example, there is some suggestion in the data that research organizations that specialize in education focus on work related to administrative matters and to teachers (such as teacher performance and teacher education), and to curriculum; whereas, the work of research organizations not specialized to education more often tends to deal with other aspects of education (e.g., student attitudes and motivation, child development, and learning and occupational outcomes).

Lack of space precludes a more detailed discussion of activity areas and of other topics covered by the survey of organizations. Interested readers may want to consult the final ARROE report, or the report summary available through the ERIC system, to obtain additional information.

Conclusion

The data presented here, together with the more detailed information contained in the ARROE report, suggest the following tentative conclusions:

(a) In terms of the number of organizations and dollars spent, the academic sector outdistances the public education and private sectors. This came as somewhat of a surprise, perhaps because the media as well as congressional committees and federal agencies give a great deal of visibility to the role of the private performers in educational RDD&E. The public education sector is in last place, with 16% of all funds and 15% of all staff. Furthermore, much of the work of state agencies and of the large school districts is federally funded and therefore vulnerable to cut-backs and discontinuities. It is clear from our findings that, in the aggregate, state, intermediate, and local education agencies have made meager allocations for research and research-related activities, and that relatively little truly locally anchored work is being carried out. Yet, it can be argued that if RDD&E activities are to achieve a higher level of acceptance by practitioners and local policy makers, more activity must occur in the public education arena, if only because RDD&E divisions of public education agencies can be immediately responsive to local needs, as expressed by school board members, administrators, teachers and the community. It can also be argued that locally based research has more potential than research coming from "outside" settings for bridging the researcher-practitioner gap.

(b) It is difficult to judge whether a clear division of labor has occurred between academic and private researchers, who between them carry out 85% of the work being performed. Clearly, the private sector is more dependent on the performance of evaluation and other policy-related studies, whereas academic institutions, with their more diversified funding support, are less involved with these activities. But given the important role of federal funds, even in the relatively more independent academic settings, topics of concern to federal policy makers dominate in both sectors. Insofar as the academic research organizations can be presumed to have more leeway in the choice of research topics, it appears that they chose to allocate their efforts to areas closely identified with traditional learn-

TABLE IV
Educational RDD&E Funds Reported Received From Various Sources, by Sector

Source	Sector: Public (N)	%	Private (N)	%	Academic (N)	%	TOTAL (N)	%
Federal Government	($37,517,000)	46	($84,901,000)	62	($87,092,000)	48	($209,510,000)	53
State Government	(28,369,000)	35	(11,706,000)	8	(33,192,000)	18	(73,226,000)	18
Local Government	(9,482,000)	12	(3,415,000)	2	(2,361,000)	1	(15,257,000)	4
Private Industry	(82,000)	1	(1,703,000)	1	(3,535,000)	2	(5,320,000)	1
Association	(256,000)	3	(8,967,000)	7	(10,971,000)	6	(20,195,000)	5
Own Funds	(5,559,000)	7	(19,309,000)	14	(38,255,000)	21	(63,123,000)	16
Other Source	(587,000)	0	(6,702,000)	5	(4,649,000)	3	(11,939,000)	3
Total Funds Reported Received	($81,852,000)	100	($136,703,000)	100	($180,055,000)	100	($393,570,000)	100
Number of Organizations Responding	(142)		(147)		(483)		(872)	
Number of Missing Cases	(49)		(38)		(95)		(182)	
TOTAL (N)	(295)		(194)		(582)		(1,363)	

Note. Based on subset of data collected by mail.

ing and curriculum interests. In contrast, private organizations seem to have provided more nontraditional coverage; they were more likely to address a wider range of topics and to employ staffs whose disciplinary background is in fields other than education. We must await our more detailed data disaggregation in the academic sector to form a final opinion, but we suspect that this may be because so much of educational research is performed in schools and departments that are best qualified to deal with teacher- and learner-centered topics. Apparently other academic units, such as social science departments or institutes, have not sought (or have not succeeded in obtaining) sizable funding for educational RDD&E, so that the perspective of these disciplines is more often brought to bear on the field through the intermediary of private sector organizations.

(c) A great deal of educational RDD&E is being carried out in private R&D organizations, many of which do not specialize in this activity. At the time of our survey, many of these had large professional staffs coming from a variety of academic disciplines and cross-disciplinary specialties. The presence of a critical mass of researchers in such organizations represents an important nucleus of trained manpower which is unmatched elsewhere in organizations doing education research. Given the vagaries of federal funding and the highly competitive nature of R&D work (which requires many of these organizations to recreate themselves, each "proposal season"), it is quite conceivable that this nucleus could be reduced or wiped out quickly if federal priorities change. In effect, because of the nature of these organizations, and the nature of the funding structure, the same staff could become engaged in other tasks.

(d) Finally, there remains the question of the optimal number of major educational RDD&E performers and the extent to which educational RDD&E should be performed by organizations that specialize in this field. Clearly, the majority of the over 2,000 organizations which we identified are marginal performers; at most, only 10% of them can be described as having the capability of performing a variety of educational RDD&E tasks. Furthermore, of the 145 major academic and private performers (those who spent more than $1 million on educational RDD&E in 1977) only 36% reported that their organizations specialized in these activities. Is this too small a number of major, specialized performers? It may be; but, given the current funding picture, with much of its work performed by nonspecialized organizations capable of shifting gears to other sorts of work, the RDD&E enterprise seems to lack a solid base for establishing a strong presence in the field of education.

Footnotes

[1] This amount ($734,884,000) represents the total expenditures incurred by the reporting organizations during their last fiscal year for all educational RDD&E activities, both internally and externally funded. Twenty-five percent of all organizations did not report expenditure data. No attempt was made to weigh the data to compensate for these missing cases.

References

Schultz, R.E. Where we've been, where we are and where we're going in educational R&D. *Educational Researcher*, 1979, 8(8), 6-8.

APPENDIX I

Needs Assessment Instruments:

- Demographic Survey
- Attitudinal Survey

Demographic Survey of the Participation of Minorities and Women
in Educational Research and Development Management

I. Staffing Patterns

Directions: For each organizational level listed below, indicate the number of employees per level as specified.

Organizational Level*	Males				Females				Total
	White (not Hispanic)	Black (not Hispanic)	Hispanic	Other	White (not Hispanic)	Black (not Hispanic)	Hispanic	Other	
Managers									
Other Professionals									
Totals									

*Managers can be best identified by their function within an institution or enterprise. They are those staff who are responsible for determining the goals or directions of the institution and are ultimately accountable for the organization's work or services. Often they are referred to as "top management" as opposed to "middle management."

Typical activities of a manager in educational research and development would most likely include each of the following:

- Meeting with other managers to plan the future of the institution
- Meeting with other managers to discuss, define, and establish institutional policy
- Making final decisions (and thus having ultimate financial and legal responsibility) for his/her work unit

Administrative structures often follow the hierarchical pattern of executive, manager, and supervisor. In educational research and development one often finds project managers and project directors who, although responsible for a particular project or piece of research, are not responsible for determining the direction of the institution. These individuals would be categorized as supervisors and would, therefore, not fall within this definition of manager. While managers may be directly responsible for the work of others, this alone does not make a person a manager.

Demographic Survey of the Participation of Minorities and Women
in Educational Research and Development Management

II. Personnel Actions

Directions: For each group listed below, indicate personnel actions taken within the past 12 months.

	Managers*					Other Professionals				
Males	Hires	Promotions	Demotions	Voluntary Terminations	Involuntary Terminations	Hires	Promotions	Demotions	Voluntary Terminations	Involuntary Terminations
White (not Hispanic)										
Black (not Hispanic)										
Hispanic										
Other										
Total Males										
Females	Hires	Promotions	Demotions	Voluntary Terminations	Involuntary Terminations	Hires	Promotions	Demotions	Voluntary Terminations	Involuntary Terminations
White (not Hispanic)										
Black (not Hispanic)										
Hispanic										
Other										
Total Females										
Grand Total										

*Managers can be best identified by their function within an institution or enterprise. They are those staff who are responsible for determining the goals or directions of the institution and are ultimately accountable for the organization's work or services. Often they are referred to as "top management" as opposed to "middle management."

Typical activities of a manager in educational research and development would most likely include each of the following:

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Research for Better Schools Minorities and Women Project

Survey of Attitudes Toward the Participation of Minorities and Women in Education Research and Development Management

This survey has been developed by Research for Better Schools to assess the attitudes of education research and development professionals toward the participation of minorities and women in top level management positions. Attitudes related to the utilization, impact, tracking, and work conditions of minorities and women in management are assessed. These attitudes have been shown to affect the level of participation of minorities and women in management.

You are asked to indicate your degree of agreement with the statements listed below by circling the appropriate number for each group (i.e., minorities/women), as indicated. Your responses will be held in strictest confidence.

Please use the following definitions of education research and development (R&D), manager, and minorities in considering your responses.

Education R&D includes, but is not confined to, research, development, dissemination, utilization, and evaluation.

Managers can be best identified by their function within an institution or enterprise. They are those staff who are responsible for determining the goals or direction of the institution and are ultimately accountable for the organization's work or service. Often they are referred to as "top management" as opposed to "middle management."

Typical activities of a manager in educational research and development would most likely include each of the following:

- Meeting with other managers to plan the future of the institution
- Meeting with other managers to discuss, define, and establish institutional policy
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Administrative structures often follow the hierarchical pattern of executive, manager, and supervisor. In education research and development one often finds project managers and project directors who, although responsible for a particular project or piece of research, are not responsible for determining the direction of the institution. These individuals would be categorized as supervisors and would, therefore, not fall within this definition of manager. While managers may be directly responsible for the work of others, this alone does not make a person a manager.

Minorities are those persons who belong to a group that is characterized by a sense of separate identity and awareness of status apart from a usually larger group. Minorities have often been the object of prejudice or discrimination that has contributed to an inferior educational, professional, and/or economic position.

Ethnic groups that are often considered to be minorities include:

- Blacks
- Hispanics (persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin)
- Asians or Pacific Islanders
- American Indians or Alaska Natives

(Circle appropriate number to indicate your response for each group, as indicated.)

Statement	Strongly Disagree				Strongly Agree
1. _____ are less concentrated in management because they are less assertive and competitive than their white male counterparts.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
2. _____ tend to show little flexibility in their work styles.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
3. _____ lack the necessary management skills to attain upper and middle management positions.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
4. _____ tend to lack the necessary quantitative skills to be managers within R&D organizations.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
5. _____ can learn how to become successful R&D managers through appropriate training.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
6. _____ in education R&D management tend to prevent other minorities/women from entering management.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
7. _____ have unique management skill needs dissimilar to their white male counterparts.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5

(Circle appropriate number to indicate your response for each group, as indicated.)

Statement	Strongly Disagree				Strongly Agree
8. Racial bias is one of the main factors excluding minorities from management positions.	1	2	3	4	5
9. Sexual bias is one of the main factors excluding women from management positions.	1	2	3	4	5
10. Management training programs rarely address the needs of _____ seeking management positions.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
11. The current availability of qualified _____ for managerial positions is limited.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
12. Changes in the hiring and promotion policies of an organization tend to increase the number of _____ in management.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
13. _____ tend to earn less than their white male counterparts similarly situated.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
14. Role models can aid _____ in becoming more successful R&D managers.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5

(Circle appropriate number to indicate your response for each group, as indicated.)

Statement	Strongly Disagree				Strongly Agree
15. Most education R&D organizations actively seek _____ applicants for managerial positions.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
16. Most R&D organizations will hire qualified _____ managerial applicants over an equally qualified white male applicant.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
17. _____ are less concentrated in management because they lack career goals.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
18. A problem facing the female manager is knowing how to cope with sexual differences and attractions in the workplace.	1	2	3	4	5
19. Discussion and open communication on the job tend to reduce animosities against _____ in management.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
20. Traditional customs, conventions, practices, and attitudes ("old-boy network") prevent _____ from entering management.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5
21. _____ in R&D management have unique training needs.	Minorities 1	2	3	4	5
	Women 1	2	3	4	5

(Circle appropriate number to indicate your response for each group, as indicated.)

	Strongly Disagree				Strongly Agree
22. The career patterns of _____ hinder them from rising in education R&D management.	Minorities				
	1	2	3	4	5
	Women				
	1	2	3	4	5
23. _____ lack the necessary interpersonal skills to attain upper and middle management positions.	Minorities				
	1	2	3	4	5
	Women				
	1	2	3	4	5
24. Most R&D organizations will promote qualified _____ managerial applicants over equally qualified white male applicants.	Minorities				
	1	2	3	4	5
	Women				
	1	2	3	4	5

Before returning this survey, please complete the section below.

Sex:

☐ Male ☐ Female

Race/Ethnic Affiliation:

☐ White, Non-Hispanic

☐ Black, Non-Hispanic

☐ Hispanic

☐ Other (Specify) _____

State Where You Work:

☐ Delaware

☐ New Jersey

☐ Pennsylvania

☐ Other

Position Level:

☐ Manager

☐ Other Professional

Thank you.

APPENDIX J

A Guide to Adapt the RBS Needs Assessment Design and Instruments

Adaptation of RBS Needs Assessment Design

1. Amend current list of R&D organizations within each state.

2. Identify contact person within each organization. (See list of R&D organizations.)

3. Determine procedure for collecting demographic information (specific to state).

   - Through contact person?
   - Use reference source?
   - Interview personnel officer?
   - Mail surveys?
   - Suggestions

4. Determine sample for attitudinal survey:

   - Use statistical procedure?
   - Each organization decides?
   - Suggestions

Adaptation of RBS Needs Assessment Instruments

1. Are both surveys needed?

2. Are the instruments appropriate? (See draft needs assessment instruments.)

   - Demographic items appropriate?
   - Attitudinal items appropriate?

3. Are the instruments complete?

   - Demographic items complete?
   - Attitudinal items complete?

4. Are the directions/definitions clear and complete (Attitudinal Survey)?

5. Is the layout/format clear and easy to follow?

6. Suggestions

APPENDIX K

Published Newsletter Articles

PERA-SCOPE
Bi-monthly Newsletter of the Pennsylvania Education Research Association
Vol. 7, No. 1 September/October 1980

MINORITIES AND WOMEN'S PROGRAM RESEARCH AND DEVELOPMENT SEMINAR

The national Institute of Education's Minorities and Women Program sponsored a two-week research and development seminar at Norfolk State University, Norfolk, Virginia, July 13-25, 1980. Thirty-six minority and women faculty and administrators from educational institutions and agencies across the country participated. The seminar provided an opportunity for these participants to focus on three areas of educational R&D: Educational Research Project Development and Management; Educational Research Design and Methods; and the Influence of Federal Policy on Educational Research and Development.

There were five participants from the tri-state area. Three of them were from Pennsylvania. Anna O. Blevins, Professor of Education at the University of Pittsburgh, formerly served the Commonwealth of Pennsylvania as Deputy Commissioner for Higher Education. Her recent research interests have focused on cross-cultural teacher education in the Caribbean. Dorothy Gardner, Associate Professor of Education, Cheyney State College, has been active in the field of educational research since 1974 when she and her husband established the Educational and Psychological Research Center in Bryn Mawr, Pennsylvania. Her basic research interest is in reading—cognitive development and assessment of minority students. John Hewlett, Assistant Principal, Henderson High School, West Chester, Pennsylvania, is presently writing the proposal for his dissertation at the University of Pennsylvania. His research interests are in first-generation minority students who are college graduates—their reasons for attending and completing undergraduate school.

NJ INTERACT
Bi-monthly digest of New Jersey Department of Education
Vol. 6, No. 6 April/May 1980

FOR YOUR INFORMATION

A recent article [illegible] ning" [illegible] states that women today hold a smaller percentage of school administrative positions than they did 50 years ago.

In 1928, 55 percent of the elementary school principals were women; today, according to the article, women fill only 18 percent of these same positions.

At the high school level, women represent 50 percent of the teachers but only three percent of the principals, says the article. It adds that women hold fewer than one percent of all superintendencies (about 150 of 18,000) and just three percent of the nation's assistant superintendencies.

If you are interested in finding out more information on women as school administrators contact: Tommye W. Casey, director, Educational Equity, Research for Better Schools, Inc., 444 Third St., Philadelphia, Pa. 19123.

PHI DELTA KAPPAN
Monthly journal of Phi Delta Kappa, professional fraternity in education
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New RBS Project for Minorities and Women

Research for Better Schools, Inc. (RBS), a private, nonprofit education laboratory, has been funded by the National Institute of Education's Minorities and Women Program to increase the participation of minorities and women in education research and development leadership/management in Pennsylvania, New Jersey, and Delaware. The expected impact of this project will be to develop a tri-state network of individuals who are interested in issues related to minorities and women in education leadership/management positions and to foster the R&D skills of minorities and women who are currently working in the field by providing technical assistance for specific projects and convening state workshops. For further information, contact the Project Director, Minorities and Women Project, Research for Better Schools, Inc., 444 N. Third St., Philadelphia, PA 19123. Ph. 215/574-9300.

APPENDIX L

Abstracts of 1981 AERA Annual Meeting Papers
Related to the Participation of Minorities and
Women in Education Research and Development

American Educational Research Association

Abstracts of 1981 Annual Meeting Papers Related to the

Participation of Minorities and Women in Education Research and Development

Prepared by
Minorities and Women Project
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Several sessions at the 1981 American Educational Research Association (AERA) Annual Meeting focused on the issues and possible solutions related to the participation of minorities and women in education research and development leadership and management. The abstracts of the most pertinent presentations are included here along with the names and addresses of the authors so that the reader might be able to send for the paper or otherwise communicate with those working in the field.

MULTI-LEVEL EVALUATIONS OF A COMPLEX PROGRAM: EVALUATING NIE'S MINORITIES AND WOMEN'S PROGRAM

NIE's Program to increase the Participation of Minorities and Women in Educational R&D offers three different types of grants to a variety of institutions: special, institutional, labs, and centers. Evaluation of both the projects and the Program as a whole is complex, since projects are concerned with different aspects of R&D (eg., research, dissemination, evaluation), promote the participation of minorities and women at different points in their career (e.g., predoctoral, postdoctoral, experienced professional), and are based on different intervention models. In order to increase the effectiveness of both individual projects, and the Program as a whole, evaluations are performed at various levels. This symposium addresses the methodological and substantive issues involved in the multilevel evaluations of a complex program.

A Thel Kocher, now of NIE, will discuss "Evaluation Methodology for an M&W Special Project: The Training Urban Educators for Linking Agent Roles (TUELAR) project. It uses a variety of qualitative and quantitative methods to provide both formative and summative evaluation information. This paper will discuss those methods. As a "Special Project" consisting of a 3-week workshop experience, the TUELAR project believes it is necessary to use follow-up data collection in order to obtain a valid assessment of any skill/behavioral changes produced by the project. The presentation will pay particular attention to discussing these.

Betty Mae Morrison, University of Michigan, will present the evaluation approach used by the joint Hampton Institute and University of Michigan Program for Training Minority and Women Researchers. Since this Institutional Project involves junior faculty and predoctoral students, objectives both for and of participants differ. The Project design itself is experimental, using different types of research teams. The methodological issues then call for a fairly complex evaluation design.

Astacia Wright and Sharon S. Koenigs will present a paper, "A Laboratory Training Program for Minorities and Women Developed, Conducted, and Evaluated in Partnership with Urban School Districts." This paper will discuss a model for the design, conduct, and evaluation of research and development training for urban educators. The features of the model include: (1) collaborative design, implementation, and evaluation; (2) coordination with on-going school district activities; (3) integration of content with priority topics selected by participating school districts; (4) training supported by practical experience; (5) evaluation of equity outcomes in the context of on-going school improvement efforts.

Finally, Naida Tushnet Bagenstos of NIE will present a paper, "Methodological Issues in a Program-level Evaluation of the M&W Program." The paper includes discussions of why summing project-level evaluations is an inappropriate approach to the Program assessment, the difficulty of evaluating a Program in which each project differs on significant dimensions, the integration of qualitative and quantitative data, presenting assessment findings in Programmatically useful ways and resolving the dilemma between immediate Program needs for information and the need for a longitudinal assessment.

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MAINSTREAMING BLACK FACULTY FROM TRADITIONALLY BLACK INSTITUTIONS INTO R & D

With funding support from the National Institute of Education—Minority and Women's Program, several innovative projects have been implemented in an effort to mainstream black faculty members from traditionally black institutions into R & D activities. Many of these projects are in their second and third year of implementation, hence, the project directors have gained substantial awareness regarding barriers and facilitators to mainstreaming black faculty into R & D. The presenters will discuss the strategies employed to increase the participation of the target population in R & D activities.

James Gunnell, Virginia Union University, will report on the activities of the Institute for Advanced Research Training: Focus on Women and Minority. This project involves six research fellows (three experienced professionals and three predoctoral scholars). The participants are involved with research management, quantitative analysis, proposal writing and administration.

Huey Charlton from the Institute of Educational Management at Atlanta University will report on a project entitled, "A Research Program to Expand Participation of Black Scholars With a Focus On Historically Black Institutions." This project is intended to provide black scholars, both men and women, with an opportunity to participate in building a research agenda that will provide new perspectives to address major issues confronting black communities in the 1980's.

Joann Wright of Hampton Institute and Robert Alford of Norfolk State University will report on the Interinstitutional Program for Proposal Development. This project, now in its second year, has provided training opportunities for 30 postdoctoral professionals. The training was designed to improve the technical proposal writing skills and marketing strategies of the participants.

Lawrence Gary, Diane Brown and Fitzroy Thomas of the Institute for Urban Affairs and Research at Howard University will report on the results of the Research Development Workshop for Faculty Members from Predominantly Black Colleges. This project has provided opportunity for faculty members from predominantly black colleges to attend a summer research development institute. The project also employed a collaboration model for developing participant research projects. In its third year of operation, the project is designed to strengthen research and grantsmanship skills as well as to provide ongoing technical assistance in the development of research projects.

Ila Martin of Virginia State University will report on the Interdisciplinary Center for Research, Development, Dissemination and Evaluation. This project has established a program for minority faculty members to address problems in educational research and has provided a vehicle for generating a variety of opportunities for participants to develop the attitude, skills and competency necessary for effective research.

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MINORITY WOMEN IN EDUCATION RESEARCH

Minority women are underrepresented in education research. Being a minority and a woman often constitutes a double barrier which prevents one from entering education research. This symposium will present a synthesis of research on this issue by minority women who have established themselves as competent researchers in a variety of disciplines.

This symposium's initial presentation, "Chicanas in Education Research: An Example of Barriers and Solutions for Minority Women," will be made by Liz Rodriguez, a NIE-NMSU Project Fellow. Liz will discuss the status of Chicanas in education research, as well as the barriers encountered by minority women in general, and propose possible solutions to these barriers.

The second presentation, "The Role and Status of Professional Black Women in Education, Psychology and Sociology," will be made by Elois Scott, University of Florida and Diane Pollard, University of Wisconsin. This study is the result of a national survey of black professional women in education, psychology and sociology. The paper will describe their concerns, identify sources of impediments and facilitators to their careers, and explore successful coping strategies.

Lily Chu, New Mexico State University, will make the third presentation, "Asian-American Women in Education Research." Her paper will explore the historical and sociocultural background unique to Asian American women in order to provide insights as to the reasons for their underrepresentation, and the possible ways which may be utilized to increase their participation in education research.

The fourth presentation, "Professional American Indian Women," will be made by Patricia Locke of the National Tribal Education Association. Her paper will examine the current status of American Indian women in research, academe, community activities and policy making.

Betty Chang, UCLA, will present, "Minority Women in Nursing Education Research." Betty will examine the representation of minority women in professional nursing education as compared to the number of minority women in nursing training. The importance of increasing the participation of minority women in nursing research will be the focus of the presentation.

The final presentation, "American Indian Education and Educational Resources Information Center," will be made by Elaine Benally of ERIC/CRESS. Elaine will delinate the services available to minority women researchers, and will demonstrate the ways minority women researchers can utilize ERIC to facilitate their endeavors in research, publication and network formation, especially in the area of Indian Education.

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DEVELOPING EDUCATIONAL LEADERSHIP: A MULTICULTURAL MODEL

In response to the need to increase the participation of minorities and women in educational R & D, a multicultural team of educational researchers was formed to develop and implement a series of 2-week training seminars. Based on that experience, a model for developing educational leadership was conceived and tested. This model, which is based on a nonhierarchial structure, focuses on tying participants and developers together in short- and long-term ways to provide the technical and survival skills necessary to become and remain an educational researcher and the skills and structure necessary to make educational R & D more responsive to the participation of women and minority men.

The first speaker, Elois Scott of the University of Florida, will discuss "Developing Educational Leadership: The Model." She will describe the model, identifying and defining critical components and their relationship to each other and how the model's multicultural thrust makes it unique yet flexible enough to meet the needs of researchers from a variety of cultures. She will also discuss the effectiveness and efficiency of the model and how it can affect future instructional and program development.

"Developing Educational Leadership: The Instructional Process" will be the topic of the presentation by Mary V. Brown of Broad IMPACTS. Brown will discuss the relationship of the instructional process and the model. She will focus on the flexibility of the process, the identification and assessment of participant needs, and the activities and techniques used in the process. She will also cover how the model and the process have been developed to meet the needs and exploit the strengths of the adult professional learner.

The value of the model, in terms of the effectiveness of programs designed under it, will be discussed by Tito Guerrero of Corpus Christi State University and Patricia Campbell of Campbell-Kibler Associates. Tito Guerrero will discuss "The Effects on Participants" of the research development seminars developed under the model. He will analyze how attending the seminars affected participants' efforts to do, present, and publish research, write proposals, and seek further training. He will also examine the effectiveness of the seminars in facilitating research networks and in encouraging participants to become more involved in the "Washington scene." Patricia Campbell will examine "The Effects on Developers" of participating in the model program. Her discussion will cover the ways that team participation fostered professional growth in terms of traditional measures (i.e., publications, grants), and it will also focus on the changes working in a multicultural, nonhierarchial R & D atmosphere has had on individual views of the research and development process.

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CHARACTERISTICS OF LEADERSHIP AND ACCESS TO LEADERSHIP POSITIONS IN TWO SERVICE PROFESSIONS: EDUCATION AND HEALTH CARE

Recent findings are presented concerning characteristics, support systems for leadership activity, visibility in careers, and sponsorship of men and women leaders in two service professions: education and health care. The findings will be viewed from the perspective of career development literature and the literature on the personal and professional socialization of women, as well as from the perspective of the literature on organizations.

Janice Grow-Maienza presents "Status Attainment and Access to Power of a Group of School Superintendents," Winifred Scott presents "Characteristics of Leadership in a Health Profession;" Lila Gordon reports some "Leadership Behaviors of a Group of School Principals." The papers will be discussed by James Frasher and Ramona Frasher of Georgia State University.

The papers presented and discussed in this symposium are important for several reasons. There has long been an interest in leadership characteristics and characteristics related to achievement. In the past researchers have often focused on aggregated groups of achievers and nonachievers in schools in an attempt to isolate predictors of achievement. Today there is a movement in certain research areas to take an in-depth approach and investigate high achievers from a micro perspective in an effort to gain new understanding about characteristics of achievement and leadership. All three of these papers examine in-depth characteristics of groups of persons who have achieved in their respective occupational fields.

In addition, there is burgeoning interest in women in careers because of recent affirmative action legislation and the traditional view that leadership and the female role are contradictory or at best ambivalent. The Scott paper compares women leaders in a health profession with non-leaders. The Grow-Maienza study examines women school superintendents and a group of men superintendents. The Gordon paper compares leadership behaviors of female principals and male principals.

Finally, a systems approach that considers the interaction of the individual with the organization has been incorporated to some extent in all the papers. Scott reports effects of some intermediary socialization variables that affect access to leadership positions. Grow-Maienza examines the organizational structures of opportunity and power as they surface in the careers of school superintendents. Gordon has investigated the effects of the organization on the leadership behavior of school principals.

Various methodologies have been employed. Gordon interviewed 32 school principals and observed and scored their behaviors at faculty meetings. Scott applied chi-square and discriminant analysis to data obtained on mailed questionnaires returned by 587 occupational therapists. Grow-Maienza employed a case study approach and analyzed data from questionnaires and open-ended interviews conducted with 22 school superintendents. Results from all the studies have implications for those interested in leadership and achievement characteristics.

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POWER STRATEGIES FOR THE ADVANCEMENT OF ACADEMIC WOMEN

The purpose of the symposium is to present and discuss some of the critical factors that influence the admission of women into leadership positions in the academic world. Strategies for achieving equal status for women in the field will be described based on results of current research. The topics to be addressed are summarized below.

It has been documented that women do not advance as rapidly or to the same level in organizations as do men. The evaluation process is considered one aspect of the social-psychological dynamics that enter into the advancement process. Because evaluation criteria are constructed and weighted by evaluators, personal belief-systems may come to operate in and define the process. Frequently these belief systems represent male values and have been shown to penalize women.

The conditions under which women assume leadership will be discussed as they relate to the evaluation process. How the identification of specific points of intervention can be guided by an understanding of the evaluation process and what women can do to improve their chances for positive evaluation under certain organizational conditions will be described.

Achieving equal opportunity for women academics and researchers means that women should be represented in all academic ranks and tenure in proportion to their numbers; they should receive equal pay for equal work, have research facilities and resources comparable to those given to men, and serve as grant and journal referees in proportion to their numbers.

For women to achieve such equal participation, efforts based on interpersonal, organizational, institutional, and national-legal strategies must be employed in addition to individual efforts. Each of these strategies will be explored and examples considered.

In the area of vocational education, women are not noticeably represented in the administrative area. Identification of factors related to this underrepresentation was undertaken in a review of the current literature. The study distinguished between the interpersonal and organizational factors that influenced women who were in or who were considering administrative positions.

A companion study examined the states' current requirements for certification in vocational education administration. The focus of the study was to determine the number of women who are qualified for and/or hold certificates to administer vocational programs as well as those women who hold such positions.

Productivity is considered an important factor for hiring, promotion, and salary increases. Are factors within productivity, such as numbers of articles published, papers presented, and citations equally important for males and females?

A survey currently underway, is designed to describe the productivity of Division E members. A comparison of the levels and types of productivity by sex and ethnic group will be made to determine who has perceived power both within Division E and within the academic disciplines represented within Division E. If differences in productivity and/or perceptions of power are found in terms of sex or ethnic group, recommendations will be made to assist those groups in becoming more professionally productive.

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A Longitudinal Evaluation of a Skills Training Program to Advance Women in Higher Education Administration

JEANNE J. SPEIZER and LILLI S. HORNIG, Wellesley College

A follow-up study was conducted of the participants of the Administrative Skills Program which was held at Wellesley College during 1977-1978 and a group of adminstrators who did not attend the program to evaluate the effectiveness of the program in aiding career advancement and in developing a network of professional peers. Background information was collected in 1978 and follow-up, outcome data 2 years later. The skills program will be described and the results of the follow-up study will be presented. Comparisons will be made between the two groups as well as combining the data to assess the career histories and paths of women administrators.

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Psychosocial Development of Women College Presidents: Integration of Professional and Gender Roles

JAN SCHMUCKLER, The Wright Institute

This study contributes to existing research on women's professional roles and focuses on professional *and* gender role integration of 41 women college presidents. Scores on psychometric measures and self-ratings of Career Satisfaction and "Role Harmony" on author-developed questionnaire were cross-tabulated with demographic, personality, and situational variables. Seventy-six percent reported high career satisfaction; 56 percent experienced some strain integrating their roles. Participants were superior functioning women with most scores above the mean on personality measures. Findings were interpreted in light of personality theories (Freud, Jung, Erikson) and social psychology (Levinson, Sanford). Results have implications for women aspiring to leadership positions.

A Theoretical Model of Affirmative Action Implementation

ROBERT E. RUCKER and THOMAS L. THOMAS, University of Kansas

This paper develops a theoretical model that can be used to empirically examine the implementation of Affirmative Action in universities. Public universities will be used as data sites. Results indicate that women and minorities are being placed in institutional positions to meet the federal mandate of Affirmative Action, assurance that federal monies are not terminated, and some incorporation of talented members of these discriminated groups. Also, women and minorities are being placed in positions that do not have the access to the environment, and do not have control over the resources that predominately white, male, college administrators have.

The Development of a Transportable Leadership and Management Program for Women in Higher Education

JOAN P. SHAPIRO, University of Pennsylvania, CYNTHIA SÉCOR and ANN BUTCHART, Higher Education Resource Service

This study examines the impact of formative evaluation on a women's training program at three test sites. Assessment of obstacles encountered in implementing and disseminating and innovative postsecondary educational program were considered. Both qualitative and quantitative evaluative techniques were used to modify the model and to assess its impact. The results indicated that formative evaluation can be highly effective in modifying this model, and that user adaptability of the program is essential for its successful implementation. It was concluded that formative evaluation can assert a pivotal influence on the "transportability" and acceptance of a complex model for change.

Women Educators in the State of Washington: Status, Qualifications, and Aspirations for Educational Leadership

MILFORD C. COTTRELL and FRANCES G. RUDD, Brigham Young University

This study determined the professional status, qualifications and aspirations of Washington state women educators. Conclusions were: (1) Competent women educators have exhibited the maturity, experience and training to attain success in administrative roles; (2) aspiring women educators are strongest in those qualifications identified as most valuable for administrative positions; (3) responsibility and challenge, concern for making change and professional advancement affect the aspirations of women educators more than salary, staff expectations or sex discrimination; and (4) models and mentors, advanced study and family had the greatest influence on the professional direction of women educators.

The Effectiveness of Four Women Administration Advocacy Models

MARTHA L. SMITH and AGNES E. TOWARD, SEDL, EFFIE H. JONES, American Association of School Administrators, LENOR HERSEY, New England Coalition for Educational Leaders, LILLIAN WOO, Center for Women in Educational Leadership, CAROL EDWARDS, Southern Coalition for Educational Equity

The objective of the paper is to describe and assess the effectiveness of four models of women administration advocacy efforts currently in operation, all loosely coupled under the title of Project AWARE. The major professional administration organization sponsors and coordinates the four models sponsored by AASA: (1) an individual membership organization structured as a confederation of six state units; (2) an individual internship program designed and operated by a university center for women; (3) involving individuals selected from state education agencies, governors' offices, and legislative staff is operated by a regional educational laboratory; and (4) an information exchange and linkage model, operated by an organization committed to monitoring regional sex and minority equality. The paper represents a rationale for each model with a discussion of its effect in terms of stated objectives and describes the coordinating mechanism and presents data indicating the positive impact of sponsorship by the association.

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MENTORING AND THE WOMAN SCHOLAR

The Status and Needs of Women Scholars

MARY L. SPENCER and EVA F. BRADFORD, Center for Women Scholars of Americas Behavioral Research Corporation

Changes in the status of women scholars are reviewed and major barriers to progress identified. The needs of over 1,000 women scholars in the San Francisco Bay Area, from colleges and universities with varying characteristics and from a variety of nonacademic settings were assessed. Results address (1) extent and nature of perceived discrimination; (2) the array of needs and suggested solutions in career planning and development; (3) priorities among needs; (4) suggested policy changes and needs for professional training; and (5) how needs and solutions vary with academic degree status, discipline, work setting, age, racial/ethnic identity, and family circumstances.

Evaluation of the University of Tennessee Predoctoral Training Program Designed to Increase Participation of Women and Minorities in Educational Research

WILMA W. JOZWIAK and TRUDY W. BANTA, University of Tennessee, Knoxville, and WILLIAM C. WOLF, JR., University of Massachusetts, Amherst

Six female and/or minority doctoral students at the University of Tennessee administered their own NIE grant and program evaluation as part of their training in research. Assisted by a consultant, they designed and administered instruments to provide formative and summative evaluation of four program objectives. Project experiences in research did increase students' research productivity and self-assessments of their research skills. Several research proposals were written and funded. Each student presented at least two papers at regional or national meetings; each wrote an article for submission to a journal. One student sought employment and acquired a job in educational research.

Economic Parity Between Men and Women Presidential Scholars

FELICE A. KAUFMANN, and STEVEN B. SILVERN, Auburn University

If the key to sex and racial equality is education of those suffering prejudice, then women who have received acknowledegement of their ability should evidence equality in employment status and income with a similar group of men. A sample of 322 Presidential Scholars were questioned regarding academic honors and awards, occupational honors and awards, current employment status and income. Chi-square analyses indicated no differences in achievement and employment status. However, differences in income were significant between men and women. Education of those suffering from prejudice is not sufficient in bringing about equality.

Sex Differences in Expectations of Mentors

SANDRA L. STEIN, Rider College

This study found that expectations of both doctoral and career mentors were higher for male than for female college professors. Subjects were faculty members at a college and university in the Northeast. A survey questionnaire was distributed to which 96 (76.8%) professors responded. Institutional affiliation did not affect sex differences. However, whether one had a career mentor affected sex differences with all males and females with mentors having similar expectations and females without mentors having lower expectations. The existence of a doctoral mentor did not influence sex differences. Areas of difference for both generally concerned jobs and friendship.

Personal Growth for Women Graduate Students: Progressive or Regressive

SALLY FRANEK, ROBERT BROWN, JANE BAACK, ROSE ROTHMEIER, and SANDRA GROH, University of Nebraska, Lincoln

Although most problems faced by graduate students are the same regardless of gender, some problems are more significant for women graduate students. This program presents data from a 2-year research project comparing a cross-section of male versus female graduate students from the beginning of the master's program to the end of the doctoral program. Data was gathered using a combination of questionnaires and selected personal interviews. Statistically significant differences were found between the sexes in some areas, particularly in regard to conflicts between personal and professional roles. Pilot intervention programs will be discussed.

Mentoring and the Young Professional Woman in Academia

SUSAN LEE and SOLOMON CYTRYNBAUM, Northwestern University

This paper will examine the mentoring process in relation to young professional women in academia. It will explore and illustrate three critical aspects of this complex process: (1) a conceptualization of the mentoring process; (2) the major task and identity issues facing young professional women in academia; and (3) the potential contributions and limitations of mentoring to the survival and productivity of younger female mentees. Reflecting on the increased attention paid to the contribution of mentoring by superordinates to the subordinate mentees in various organizational settings, this paper will illustrate a developmental/social systems conceptual perspective of the mentoring relationship.

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Stigma: Notes on the Measurement of the Spoiled Identity of Women in School Administration

CATHERINE MARSHALL, University of Pennsylvania

This research explored the process affecting the career decision-making, entry and mobility of women in school administration. The research was guided by a framework derived from theory on careers and professional socialization and from research on school administration and on women. Data derived from open-ended interviewing of 25 women in a range of positions in school administration were analyzed by the constant-comparative method. The analysis showed that women encounter a special socialization process called transition as they enter school administration. During transition, women create techniques for access, training, and for management of career-role strain. This paper focuses on an analysis of transition from the perspective of Goffman's study of abnormal people. Viewing administrators as "marginal men" and as "double deviants" provides a perspective that explains behaviors, attitudes, and relationships women develop during transition.

Women's Salaries in Higher Education: A Case Study

HELENAN S. LEWIS and STANLEY S. ROBIN, Western Michigan University

This is an examination of faculty salaries at a large state university through three consecutive salary researchers (1977–80). The research sought to determine if there are differences in male and female faculty salaries, the amount and explanatory factors. Also examined were the effects of an equity adjustment. Women were found to receive lower salaries than men at all ranks, even with predictive variables controlled. These differences persisted after the equity adjustments. The study develops a methodological approach and creates the beginnings of a longitudinal and cross-sectional data base for the examination of salary discrimination against women in higher education.

Retention, Professional Development and Quality of Life: A Comparative Study of Male/Female Nontenured Faculty

RACHEL G. FUCHS and JESSIE LOVANO-KERR, Indiana University

A qualitative inquiry was conducted on concerns of nontenured faculty regarding retention, professional development and quality of life, after existing data revealed years of lower rates of retention for women. A questionnaire was mailed to 100 tenure-line, nontenured women and 100 men faculty. Response rate was 61 percent for women and 62 percent for men. Results indicated that men and women respondents shared similar perceptions on (1) general personal evaluation of their professional lives, (2) viewpoints on career aspirations; (3) feelings of insecurity, pressure and isolation. However, women indicated more concerns and lack of confidence regarding prospects for tenure. Stereotypic myths were not substantiated.

"If They Can, I Can": Women Aspirants to Administrative Positions in Public Schools

SAKRE K. EDSON, University of Oregon

Despite the diminishing numbers of women in school administration and despite the obstacles in the field, there are a number of women who do aspire to become administrators. This descriptive, two-part study focuses on women actively preparing and competing for principalships in 1979; 116 questionnaires from female aspirants in Oregon were selected for computer analysis, while 21 women were chosen for taped interviews. Women expressed confidence in their ability to do the job of administration and to do the work better than most current administrators. The study examines current stereotypes of women in administration, offering updated perspectives on female aspirants.

Superintending: Activities of Women Who Have Not Been Filtered Out

NANCY J. PITNER, University of Oregon

The everyday activities of superintendents who also happen to be women served as a topic of inquiry. A description of the actual job of the superintendency—its structure and content—is presented utilizing three frameworks: (a) a chronology of their activities, (b) an examination of their network of contacts, and (c) an examination of their written communications. The general findings of this study are that the activities of surburban school superintendents have specific characteristics regardless of the sex of the position incumbent. Some important differences between males and females were uncovered. These differences are identified and explored.

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APPENDIX M

Letter to NIE Minorities and Women's Program Projects

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Research for Better Schools, Inc.

November 17, 1980

Name
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State

Dear :

Since December 1979, Research for Better Schools, Inc., has been working on a project funded by the National Institute of Education's Minorities and Women's Program. A description of this project is enclosed. As you can see, we are developing a model to be used by agencies working with one or more State Education Agencies (SEAs) to help increase the participation of minorities and women in education R&D management.

We are attempting to compile several annotated lists of successful practices that will become part of our model and we would like to include information on your NIE Minorities and Women's Program project. Please send to me any descriptive literature you have and any other information that you think we might find useful. Also, if you have done any work along these lines within a state or have any ideas, please share them with us.

Thank you for your help.

Sincerely,

Joanne B. Stolte
Director, RBS Minorities
and Women Project

JBS:jc

Enclosure

APPENDIX N

An Example of How RBS Disseminated Information Regarding the Third Summer Institute for Educational Research on Asian and Pacific Americans:

- Institute Brochure
- RBS News Release
- Letter to Tri-State Asian-American Network
- Letter to Individual
- Response from Institute Applicant
- Telephone Response

Third Summer Institute for Educational Research on Asian and Pacific Americans

July 9-24, 1981

ASIAN AMERICAN BILINGUAL CENTER
Berkeley Unified School District

N-3

NEWS RELEASE

SUMMER INSTITUTE FOR EDUCATIONAL RESEARCH ON ASIAN AND PACIFIC AMERICANS

Research for Better School's Minorities and Women's Project announces an opportunity for researchers who wish to become better prepared in areas related to education R&D: qualitative and quantitative research methods, research issues on Asian and Pacific Americans, language proficiency assessment, and grantsmanship. Advanced doctoral students and postdoctoral scholars, especially those interested in research on Pacific Americans, are encouraged to apply for attendance at the 1981 Summer Institute in Hawaii (Hilo and Honlulu) which is being co-hosted by the Asian American Bilingual Center of Berkley Unified School District and the University of Hawaii at Hilo and Manoa from July 9-24. A number of travel grants and living expense stipends will be awarded to participants based on need. Application deadline is March 31, 1981. For registration materials contact: Minorities and Women's Project, Research for Better Schools, Inc., 444 North Third Street, Philadelphia, PA 19123 (215) 573-9300.

January 30, 1981

Krishna Lahiri
311 Llandrillo Road
Bala Cynwyd, PA 19004

Dear Krishna,

Enclosed is a news release which has been sent to the newsletters in the tri state area which are affiliated with the RBS Minorities and Women's Project. I thought the Summer Institute for Educational Research on Asian and Pacific Americans would be of interest to you as an individual and as a member of the Asian American Council of Greater Philadelphia. Effort to circulate this information would be appreciated. Please let me know the response so I can forward the necessary number of applications.

Sincerely,

Pamela C. Rosen
Research Associate,
Educational Equity

BCR/de
Enclosure

cc: J. Stolte

Research for Better Schools, Inc.
444 North Third Street, Philadelphia, Pennsylvania 19123 • (215) 574-9300

Dear Colleague,

Enclosed is the application form for the Third Summer Institute for Educational Research on Asian and Pacific Americans to be held in Hawaii, July 9-24, 1981. Fifty participants will be chosen. Travel grants and/or living expense stipends are available to a limited number based on financial need. The topics are timely and the lecturers are proficient in their fields. The experience will be worthwhile.

Also enclosed is a description of the RBS Minorities and Women project. It is the intent of this project to increase the participation of minorities and women in education R&D management positions through the publishing of news releases announcing skill building opportunities such as the Asian and Pacific American Seminar, conducting seminars for targeted audiences in the tri-state area, and providing technical assistance to projects whose directors are or whose topics focus on minorities and women.

Your name and address are now part of our network. In the event of subsequent opportunities that seem pertinent to your interests, a member of the RBS project staff will contact you. Meanwhile, if there is any way in which I can be of assistance, please do not hesitate to contact me at the above address or phone, extension 323.

Sincerely,

Pam

Pamela C. Rosen
Research Associate,
Educational Equity

PCR/de
Enclosures

Yolande Lanni-Allen
14 Crescent Parkway
Middletown, P. O. Red Bank, New Jersey 07701

March 15, 1981

Minorities and Women's Project
Research for Better Schools, Inc.
444 North Third Street
Philadelphia, Pa. 19123

Dear Selection Committee:

I am very much interested in attending the 1981 Summer Institute in Hawaii from July 9-24, and would appreciate specific information on submitting an application. I feel my background and credentials make me a suitable candidate for inclusion in the program.

I am a doctoral candidate at New York University: having finished all my required coursework, I am currently embarking on my dissertation in the field of linguistic research. I look forward to becoming better prepared in research methods and issues, and welcome the opportunity you are affording.

I feel there is a strong need to promote awareness of resources available to educators that will allow us to provide a better learning situation for Asian and Pacific Americans, and indeed, all bi-lingual students. As a reading resource consultant for the last eight years, I have seen the Eastern seaboard struggling to service those coming to us from foreign shores. For the past three years, I have been in a government funded position and have come to realize the grant money that is available to those with the know-how and skill to apply for it.

As you are aware, doctoral candidacy puts an enormous strain on the finances, and I would appreciate submitting an application for a travel grant and a living expense stipend, for I am afraid I cannot seriously consider attending without financial assistance.

Sincerely,

Yolande Lanni-Allen

Yolande Lanni-Allen

Sent 4/24/81 - DE

Sent 4/28/81 - DE - Asian American Studies Center Questionnaire

N-7

RBS Minorities and Women Project

Telephone Request Form

Person Calling Lynn Morton Date 3/24/81

Address 401 Claridge Court
Point Pleasant, NJ 08742

Phone Number

Occupation Teacher, Ocean County College

Areas of Education R&D interest Linguistics, cultural/anthropology
Has an M.Ed in ESL. Teaches ESL to foreign born, primarily Asians (Vietnamese, Cambodians + Chinese).

Request:

Project information ✓ Information re RBS

Additional information ✓ (e.g., from newsletter article)
3rd Summer Institute for Ed. Research on Asian + Pacific Americans

Technical Assistance

Source of information re RBS M&W Project NJ Interact

Request response (carbon attached)

Date request answered Sent 4/6/81 Asian American Studies Center
N-8 Questionnaire

APPENDIX O

Sample of Basic Parameters for a Workshop

RBS Minorities and Women Project

Basic Parameters Regarding 1980 Workshop

- one workshop will be held for all three states
- the workshop will be invitational (SEA liaison and other SEA personnel will select the participants); therefore, there will be no mass mailing, no "announcement to participate" in newsletters
- five to eight participants will be selected from each state (fifteen to twenty-four participants in all)
- the term "workshop" will be replaced by the term "seminar" which appears to be more appropriate
- the seminar will be held in Philadelphia at RBS
- the seminar will be one day in duration (9:30 am to 4:00 pm); overnight accomodations will not be necessary
- no particular education level or professional work background will be required for attendance
- RBS will provide all materials for participants (e.g., name badges, folders, reprinted articles)
- RBS will provide lunch and transportation costs - car pools will be encouraged

APPENDIX P

Needs Assessment Pre-seminar Correspondence:

- Letter of Invitation
- Letter of Confirmation
- Preliminary Agenda
- Pre-seminar Questionnaire
- Description of Speakers

444 North Third Street, Philadelphia, Pennsylvania 19123 • (215) 574-9300

Research for Better Schools, Inc.

September 19, 1980

Name
Street
City, State

Dear

Research for Better Schools, Inc. (RBS) and the ___(state)___ ___(DPE/DPI)___ cordially invite you to attend a seminar entitled "Needs Assessment: Techniques and Application for Assessing the Participation of Minorities and Women in Education R&D Leadership/Management." This seminar is sponsored by RBS as part of a grant from the National Institute of Education's Minorities and Women's Program. (See the attached project description for further information.) The seminar is scheduled for October 29, 1980 at the offices of Research for Better Schools, 444 North Third Street, Philadelphia, PA 19123.

This seminar will last for one full day. The morning will be devoted to an overview of the latest techniques of needs assessment. In the afternoon, you will be asked to help adapt a needs assessment instrument to the particular context of your state and help design a needs assessment survey to be conducted by RBS during 1980-81. A copy of a tenative agenda and a description of the featured speakers are enclosed.

Seminar participants are being invited from the tri-state area of Delaware, New Jersey, and Pennsylvania. Participants will represent the state education agency, intermediate service agencies, and local education agencies who have an interest in needs assessment and/or the participation of minorities and women in education R&D leadership and management.

As part of the seminar, RBS will cover the costs of registration, lunch, and your transportation. We would like to encourage you to form car pools and you should know that parking is free at RBS. Due to limited funds, we cannot offer to pay for hotel rooms or other meals. A map is enclosed.

Participation is limited and arrangements are presently being made. We would appreciate your returning the enclosed registration card as soon as possible. If you have any questions, please feel free to call _____ _____ (SEA liaison to RBS Minorities and Women project) at _____ _____ or me at (215) 574-9300.

Sincerely,

Joanne B. Stolte
Director, RBS Minorities
and Women Project

JBS/de
Enclosures

cc: _____
SEA Liaison to the RBS Minorities
and Women Project

_____
Division Head of Participant

444 North Third Street, Philadelphia, Pennsylvania 19123 • (215) 574-9300

Research for Better Schools, Inc.

October 24, 1980

Name
Address
City
State

Dear :

I am pleased that you will be able to attend the Research for Better Schools seminar on October 29. Registration will begin at 8:30 a.m. (coffee and donuts will be available) and the seminar will begin promptly at 9:30 a.m. Please try to arrive no later than 9:15 a.m.

Enclosed you will find a brief questionnaire that we would like you to complete and return to RBS, in the envelope provided, by October 15 so we might better plan for your participation.

Also enclosed you will find directions to RBS. We encourage you to form car pools and remember, parking is free at RBS. Your car mileage and/or train ticket will be reimbursed; however, cab fare cannot be covered. If you will be arriving by train, please call Pam Rosen, Tommye Casey, or me at (215) 574-9300 during the week of October 20 to make arrangements to be picked up at 30th Street Station.

I look forward to seeing you on October 29.

Sincerely,

Joanne B. Stolte
Director, RBS Minorities
and Women Project

Enclosures

Research for Better Schools Minorities and Women Project
1980 Seminar Agenda

"Needs Assessment: Techniques and Application for Assessing the Participation of Minorities and Women in Education R&D Leadership and Management"

Morning Session (9:30 - 12:00) "Needs Assessment: An Education R&D Skill"

- Address by Betty Mae Morrison, University of Michigan
  "Setting Planning Priorities"

- The basic concepts, models, and procedures of needs assessment will be described and examined by the RBS needs assessment staff. Based on a pre-seminar questionaire, the participants will be divided into two or more groups which will allow for previous experience with needs assessment. (Following the seminar, the participants will be better prepared to identify problems; therefore, they will be more successful in planning and accomplishing tasks. Some participants will have exchanged ideas regarding the state-of-the-art of needs assessment.)

Lunch (12:00 - 1:30)

- Keynote address by Patricia B. Campbell, Campbell-Kibler Associates
  "Power, Leadership, and the Underrepresented"

Afternoon Session (1:30 - 4:00) "Planning for a Needs Assessment Regarding Minorities and Women in Education R&D Leadership"

- An instrument designed to identify the needs of an agency conducting R&D regarding the participation of minorities and women in education R&D management will be presented and reviewed. Examples of areas considered in the instrument will be: underutilization, adverse impact, tracing into lower paying and less desirable jobs, and inadequate work conditions. The participants will break into state delegations to help the RBS staff adapt the instrument to their states' organizational structure, size, etc.

- Break

- A needs assessment plan (design) will be introduced and the participants, within their state groups, will help the RBS staff to adapt this design. (The seminar participants will be able to help in the conduct of the RBS needs assessment regarding the participation of minorities and women in education R&D leadership. The participants will also be able to utilize needs assessment concepts and methodologies in their career.)

In order for RBS to provide you with a seminar appropriate to your background, please fill out this questionnaire and return it to Research for Better Schools in the attached envelope by October 15, 1980.

PRE-SEMINAR QUESTIONNAIRE

	OFTEN	SOMETIMES	SELDOM	NOT AT ALL/NEVER
Have you ever read about the basic concepts, models, methodologies, etc. of needs assessment?	☐	☐	☐	☐
Have you ever used needs assessment data to plan, make decisions, or establish policy?	☐	☐	☐	☐
Have you ever conducted a needs assessment?	☐	☐	☐	☐

From your perspective, how useful are needs assessment data in planning, making decisions, or determining policy?

- very useful ☐
- useful ☐
- not useful ☐
- not sure ☐

What particular knowledge or skills regarding needs assessment would you like to gain through participation in this seminar?

_____

_____

_____ _____

Name _____ State _____

Dr. Betty Mae Morrison, Professor of Education at the University of Michigan (Ann Arbor), where she teaches research design and statistics, is nationally known for her research in the areas of locus of control and socialization of children in the classroom. Her studies include "Two-Way Socialization in the Classroom" and "Education, Labor Market Experience, and Current Expectancies of Black and White Men and Women." The latter study, based on a national sample, examines locus of control and the effect of past experiences and education through examination of sex, race, age, current behavior, and marketplace positions.

Her many other activities include direction of an NIE Minorities and Women's Program project (training minority and women researchers) and service on the Advisory Board for the National Center for Education Statistics and panels for various federal agencies, including the National Science Foundation and the National Institute of Education.

Dr. Patricia B. Campbell, of Campbell-Kibler Associates, Red Bank, New Jersey, is a nationally known leader in the field of educational equity. An experienced researcher, trainer, and administrator, she has published a number of books and articles in this area and has developed thirteen multi-media instructional units on stereotyping in education for use by teachers and teacher educators. Currently, she is working on a monograph on the effects of sex and race bias in research methods.

In her role as a consultant, Dr. Campbell has worked with individual schools and districts in a variety of areas, including needs assessment, program evaluation, and in-service training. She is also the head of the Curriculum Planning Team for the National Institute of Education's Minority and Women's Program, which supports projects designed to increase the participation of minorities and women in educational research and development.

APPENDIX Q

Needs Assessment Seminar Materials:

- Agenda
- Handouts
  - Needs Assessment Purposes and Issues
  - Needs Assessment Models and Methodologies
  - Small Group Discussion for Providers
  - Small Group Discussion for Users
- Post-seminar Questionnaire

"Needs Assessment: Techniques and Application for Assessing the Participation of Minorities and Women in Education R&D Leadership and Management"

Research for Better Schools Minorities and Women Project Seminar

October 29, 1980

Agenda

8:30 Registration, coffee and donuts

9:30 Overview: RBS Minorities and Women Project
Joanne B. Stolte, Director, RBS Special Projects Division

9:35 Welcome
John E. Hopkins, Executive Director, RBS

Needs Assessment: An Education R&D Skill

9:40 Address: Setting Planning Priorities
Betty Mae Morrison, University of Michigan

10:00 Needs Assessment: Purposes and Issues
Richard Spanier, Director, RBS Regional Needs Assessment

10:20 Needs Assessment: Models and Methodologies
Beth Woolf, Research Associate, RBS Regional Needs Assessment

11:00 Break

11:15 Group Meetings (Users and Providers of Needs Assessment Data): Questions and Answers

11:45 Summary of Group Meetings

12:00 Lunch/Professional Networking

1:00 Keynote Address: Power, Leadership, and the Underrepresented
Patricia B. Campbell, Campbell-Kibler Associates

Planning for a Needs Assessment Regarding Minorities and Women in Education R&D Leadership and Management

1:30 The RBS Minorities and Women Project Needs Assessment
Joanne B. Stolte

1:50 Review of RBS Needs Assessment Design
Alicia King, Research Associate, RBS Regional Needs Assessment

2:00 Review of Draft RBS Needs Assessment Instruments
Alicia King

2:15 State Meetings: Adaptation of RBS Needs Assessment Design

3:00 Break

3:10 State Meetings: Adaptation of RBS Needs Assessment Instruments

3:55 Summation

Needs Assessment Purposes and Issues

I. Purposes of Needs Assessment (Handout)

A. Food for Thought

B. Program/Policy Justification

C. Predicting Responses to Programs/Politics

D. Distributing Control Over Educational Policy

E. Achieving Measurable Improvement

II. Examples of Needs Assessments (Handout)

A. Teacher Preparation in Special Ed.

B. Title I Reallocation

C. Perceptions of SEA Performance

D. Defining Focus and Mission of Lab

E. Identifying Statewide Student Needs

F. Identifying Technical Assistance Needs

III. Issues

A. Definition of Need (Handout)

1. Kaufman

2. Scriven

3. Ellett and Schumener

B. Politics of Needs Assessment

C. Paradox of Consensus

D. Macro-Needs Assessment vs. Micro-Needs Assessment

PURPOSES FOR CONDUCTING NEEDS ASSESSMENTS

PURPOSE	CHARACTERISTICS
FOOD FOR THOUGHT	• Intended primarily to provide information to stimulate the development of new policies or programs • Data may be only one aspect of a more complicated decision process • Greater concern with the richness and variety of data than with quantitative procedures
PROGRAM OR POLICY JUSTIFICATION	• Intended to justify, through public disclosure, how a policy or program decision was reached • Data presented are directly related to implementation decision
PREDICTING RESPONSES TO PROGRAMS OR POLICIES	• Intended to predict reaction to various program or policy alternatives • Methodology heavily influenced by the need to predict public reaction as in market research and political polling
DISTRIBUTING CONTROL OVER EDUCATIONAL POLICY	• Intended to involve the public directly in policy or program development • Data used directly in establishing policy or program direction through referenda, goal setting exercises, etc.
ACHIEVING MEASURABLE IMPROVEMENT	• Intended to identify needs directly so that plans for improvement may be developed • Use of "hard" assessment data coupled with a decision-making process for ranking needs according to priority • Call for repeated measures to determine effectiveness of implemented policies or programs

Needs Assessment Models and Methodologies

I. Discrepancy Model vs. Diagnostic Model (Handout)

II. Goal Rating Procedures--What Ought to Be/Minimum Satisfactory Level

- A. Likert Scale
- B. Card Sort
- C. Budget Allocation
- D. Paired-Weighting Procedure (Handout)
- E. Magnitude Estimation Scaling

III. Gathering Data on Existing Conditions--What Is

- A. Survey Questionnaire
- B. Student Performance Data
- C. Other Existing Data

IV. Discrepancy Surveys (Handout)

- A. Batelle Surveys
- B. Westinghouse Surveys
- C. Institutional Goals Inventory

V. Needs Assessment Kits (Handout)

- A. ACNAM
- B. CSE
- C. PDK (Handout)

VI. Specialized Techniques

- A. Critical Incident
- B. Delphi
- C. Fault Tree Analysis

"Needs Assessment: Techniques and Applications for Assessing the Participation of Minorities and Women in Education R&D Leadership and Management"

Small Group Discussion

Pre-seminar questionnaires returned to RBS indicated that one group of participants (providers of needs assessment data) is interested primarily in issues related to the design and implementation of needs assessments. A second group (users of needs assessment data) is interested more in the application of needs assessment results in planning. This small group meeting is intended for providers of needs assessment data.

Participants in each group represent a wide range of familiarity with needs assessment concepts and practical experience. For that reason we encourage all members of the group to contribute fully sharing their own expertise and professional experiences.

Suggested Topics

1. The development and use of a needs assessment plan
2. Instrument development
3. Use of secondary sources of information
4. Use of needs assessment data in resource allocation

"Needs Assessment: Techniques and Applications for Assessing the Participation of Minorities and Women in Education R&D Leadership and Management"

Small Group Discussion

Pre-seminar questionnaires returned to RBS indicated that one group of participants (providers of needs assessment data) is interested primarily in issues related to the design and implementation of needs assessments. A second group (users of needs assessment data) is interested more in the application of needs assessment results in planning. This small group meeting is intended for users of needs assessment data.

Participants in each group represent a wide range of familiarity with needs assessment concepts and practical experience. For that reason we encourage all members of the group to contribute fully sharing their own expertise and professional experiences.

Suggested Topics

1. Interpretation of needs assessment results
2. Effective planning strategies using needs assessment data
3. Development of data gathering systems
4. Assessing the value of needs data presented to planners

Please complete this questionnaire before leaving today and return it to the RBS Minorities and Women Project staff.

Research for Better Schools Minorities and Women Project Seminar

"Needs Assessment: Techniques and Application"

POST-SEMINAR QUESTIONNAIRE

	Yes	No
Did this seminar offer you any new information about the concepts, models, and/or procedures of needs assessment?	☐	☐
Were you provided with the knowledge or skills you expected concerning needs assessment concepts, models, and/or procedures?	☐	☐
Were you comfortable with the morning session grouping arrangements based on needs assessment experience and present occupational needs?	☐	☐
Did the seminar provide an adequate rationale for the need to assess the participation of minorities and women in education R&D management?	☐	☐
Did the state meetings in the afternoon facilitate the adaptation on the needs assessment to your state?	☐	☐
Were the invited speakers appropriate to the seminar?	☐	☐
Did the seminar facilitate networking among your tri-state colleagues?	☐	☐
Will you be able to use the needs assessment concepts and methodologies presented in your present position?	☐	☐
Were the logistical arrangements for the seminar satisfactory (meeting rooms, luncheon arrangements)?	☐	☐

	Yes	No
Would you be willing to help develop suggestions/ recommendations from an analysis of the needs assessment data?	☐	☐
Are there other education R&D skills/techniques you feel are needed by minorities and women to achieve management/leadership positions?	☐	☐

If yes, please list those skills or techniques....

_____

_____

_____

_____

_____

Having participated in this seminar, how do you now perceive the usefulness of needs assessment data in planning, making decisions, or determining policy?

- very useful ☐
- useful ☐
- not useful ☐
- not sure ☐

Other Comments:

_____

_____

_____

_____

_____

APPENDIX R

Needs Assessment Post-seminar Correspondence

- Letter of Appreciation
- Post-seminar Questionnaire Summary

Research for Better Schools, Inc.
444 North Third Street, Philadelphia, Pennsylvania 19123 • (215) 574-9300

October 31, 1980

Dear Colleague,

I want to thank you for your participation in the Research for Better Schools Needs Assessment Seminar earlier this week. As requested, I am enclosing a copy of the letter I read during the seminar from the chief state school officer for your state.

Also enclosed is a copy of an article that just appeared in the October issue of Educational Researcher that addresses the role and status of minorities in education R&D. The entire October issue was devoted to the concerns of minorities in education R&D and we will be adding these articles to our bibliography.

Under separate cover we have mailed to you two more volumes reporting on the conferences on the educational and occupational needs of minority women. (They arrived one day late!)

Again, thank you for your participation and please keep the RBS Minorities and Women Project in mind if you see something you think would be of interest to us.

Sincerely,

Joanne B. Stolte
Director,
RBS Minorities and
Women Project

JBS/de
Enclosures

cc: T. Casey
P. Rosen
E. Newcomb

Please complete this questionnaire before leaving today and return it to the RBS Minorities and Women Project staff.

Research for Better Schools Minorities and Women Project Seminar

"Needs Assessment: Techniques and Application"

POST-SEMINAR QUESTIONNAIRE

	Yes		No
Did this seminar offer you any new information about the concepts, models, and/or procedures of needs assessment?	18		3
Were you provided with the knowledge or skills you expected concerning needs assessment concepts, models, and/or procedures?	16	1	3
Were you comfortable with the morning session grouping arrangements based on needs assessment experience and present occupational needs?	13		7
Did the seminar provide an adequate rationale for the need to assess the participation of minorities and women in education R&D management?	14	2	5
Did the state meetings in the afternoon facilitate the adaptation on the needs assessment to your state?	18		1
Were the invited speakers appropriate to the seminar?	21		0
Did the seminar facilitate networking among your tri-state colleagues?	16		4
Will you be able to use the needs assessment concepts and methodologies presented in your present position?	15	1	3
Were the logistical arrangements for the seminar satisfactory (meeting rooms, luncheon arrangements)?	19		2

	Yes	No
Would you be willing to help develop suggestions/ recommendations from an analysis of the needs assessment data?	21	0
Are there other education R&D skills/techniques you feel are needed by minorities and women to achieve management/leadership positions?	14	3

If yes, please list those skills or techniques....

- human development skills
- mentoring
- leadership styles
- dealing with stress/anxiety
- educational opportunities
- opportunities for internships
- learning the "unwritten rules"
- learning political structure
- how to beat the "system" that only allows for horizontal moves
- managerial skills
- learning the "system"
- developing channels of communication within the hierachy
- how to make use of a networking system

Having participated in this seminar, how do you now perceive the usefulness of needs assessment data in planning, making decisions, or determining policy?

from pre-seminar questionnaire		
13	very useful	13
7	useful	7
	not useful	
1	not sure	1

Other Comments:

APPENDIX S

Newsletter Article: Search for
Minority and Women Project Directors

WHAT'S HAPPENING IN EDUCATION?
Monthly Bulletin of The Delaware Department of Public Instruction
Planning, Research and Evaluation Division
Bulletin #64 November 1980

NOTICE: PROJECT DIRECTORS

Research for Better Schools, Inc., is trying to identify minority and women project directors in education R & D in the tri-state area of Delaware, New Jersey, and Pennsylvania. (Education R & D as used here includes, but is not confined to research, development, dissemination, utilization, and evaluation.) If you are directing a project, please send your name, address, and the title of your project to: Joanne B. Stolte, Research for Better Schools, 444 North Third Street, Philadelphia, PA 19123. This identification is being conducted as part of a project to increase the participation of minorities and women in education R & D, funded by the National Institute of Education's Minorities and Women's Program.

APPENDIX T

Annotated Bibliography on Career Development

REFERENCES FOR CAREER DEVELOPMENT WORKSHOP

Bolles, R.N. The three boxes of life and how to get out of them: An introduction to life/work planning. Berkeley, Calif.: Ten Speed Press, 1978.

This book, a practical, how-to-do-it manual on life/work planning, presents a philosophy of life, exercises to analyze your own situation, and strategies that will lead to greater self-understanding and more control of the direction of your life. Bolles depicts the box-like nature of life as a life divided into three segments, the first devoted to getting an education, the second to earning a living, and the third to living in retirement. During each segment of life (or in each box) one must deal with four major issues: 1) what's happening? 2) survival, 3) meaning or mission, and 4) effectiveness. Bolles advocates a better balance among learning, working, and leisure at every age and stage of life. He offers suggestions for creating this balance and for dealing with the major issues as they relate to learning, work, and leisure.

Dauw, D.C. Up your career! (3rd ed.), Prospect Heights, Ill.: Waveland Press, 1980.

This career guide, in workbook format, is designed to aid persons facing the dilemma of finding employment or changing jobs. It contains career exploration and career development information and exercises that can help one first identify his/her personal characteristics and vocational preferences and then match them to occupational choices. J. H. Holland's six personality types (realistic, investigative, artistic, social, enterprising, and conventional) are used in this job-matching procedure. Additional exercises assist in developing personal attributes and skills that will increase success in a career search; included are suggestions for building self-esteem, risk-taking, decision making, interviewing, and increasing success. Specific hints are given for women. A series of readings addresses current issues such as job discrimination, burnout, executive careers, and resume writing, and a bibliography identifies additional resources.

Greiff, B.S., & Munter, P.K. Tradeoffs: Executive, family and organizational life. New York: New American Library, 1980.

In order to succeed, executives must recognize the tradeoffs in their professional and private lives, and choose carefully among their options. The authors of this book analyze these options and offer practical strategies for striking a balance in an executive's life between personal, family, and organizational roles. They consider the tradeoffs to be made at various stages of an executive's career and suggest ways to handle specific conflicts such as relocation. losing a position, or job pressure. Guidelines for executive success must include a personal philosophy that acknowledges the human factor in corporate life, keeps track of personal priorities, and maintains control of his/her own life. The special dilemmas of women, minority group members, and dual career families are discussed.

Hart, Lois Borland. Moving Up! Women and leadership. Amacom, 1980.

Moving Up! is directed at women who are aspiring to leadership roles in the working world. Leadership is defined as the process of influencing one or more people in a positive way so that the tasks determined by the goals and objectives of an organization are accomplished. The leadership skills that are needed within an organization are grouped into seven areas: communications, human relations, supervision, counseling, management science, decision making, and planning. Each group of skills is related to the five levels of management, from supervisor to executive, that are found within an organization. The book is a practical guide that will help women assess their leadership skill needs and develop a plan to meet them. It identifies the problems and rewards of leadership. In addition, it shows women how to develop a career plan, assess their risk-taking potential, and identify resources that will help them reach their career objectives.

Morgan, M.A. (Ed.). Managing career development. New York: D. Van Nostrand, 1980.

This book, a series of readings, analyzes and explains many basic career issues. Each reading is related to one of two major themes. The first theme is that careers develop and change over time. There are several predictable stages and transitions in any career, each with concerns that affect job success. The second theme is that careers can be managed. While individuals cannot completely control

career outcomes, often they can positively influence career directions. Ultimate career decisions are the responsibility of individuals, but this responsibility is shared by supervisors and organizations. Of special interest are the articles in the sections Special Career Issues for Women and Minorities and Individual Strategies for Career Management.

Welch, M.S. Networking. The great new way for women to get ahead. New York: Warner Books, 1980.

Networking is describes as a concept, a technique, and a process that enables women to use personal contacts for advice and support while pursuing a career. Welch concentrates on practical advice first by helping the reader to analyze current network patterns, and next by giving suggestions for extending networking activities toward career goals. Stories of successful networking illustrate her recommendations, She also explains how to tap into an existing networking group, either a company-focused or city-wide group, or form a new one.

APPENDIX U

Telephone Request Form

RBS Minorities and Women Project

Telephone Request Form

Person Calling _____ Date _____

Address _____

_____

_____

Phone Number _____

Occupation _____

Areas of Education R&D interest _____

_____

_____

Request:

Project information _____ Information re RBS _____

Additional information _____ (e.g., from newsletter article)

_____

_____

_____

Technical Assistance _____

_____

_____

_____

Source of information re RBS M&W Project _____

_____

Request response (carbon attached) _____

_____

_____

Date request answered _____

APPENDIX V

Examples of Technical Assistance Letters and Responses

CLAUDIA M. AUSTIN
6000 Smithfield Street - McKeesport, Pa. 15135

I am interested in additional information regarding the National Institute of Education's Minorities and Women Program. I am a classroom teacher of the gifted at this point in time, but I do have a secondary administrative certificate; therefore, I am especially interested in women in education research and development leadership/management in Pennsylvania!

I would appreciate the information!

Claudia M. Austin
Phi Delta Kappan
Sept 1980

New RBS Project for Minorities and Women

Research for Better Schools, Inc. (RBS), a private, nonprofit education laboratory, has been funded by the National Institute of Education's Minorities and Women Program to increase the participation of minorities and women in education research and development leadership/management in Pennsylvania, New Jersey, and Delaware. The expected impact of this project will be to develop a tri-state network of individuals who are interested in issues related to minorities and women in education leadership/management positions and to foster the R&D skills of minorities and women who are currently working in the field by providing technical assistance for specific projects and convening state workshops. For further information, contact the Project Director, Minorities and Women Project, Research for Better Schools, Inc., 444 N. Third St., Philadelphia, PA 19123. Ph. 215/574-9300.

September 16, 1980

Claudia M. Austin
6000 Smithfield Street
McKeesport, Pennsylvania 15135

Dear Claudia:

Thank you for your letter requesting information about the RBS Minorities and Women Project. I have enclosed a description of our project, which should answer some of your questions.

In response to your request for more information about women in education R&D leadership/management, there are several good resources that you might want to examine.

- Women and Educational Leadership, edited by Sari K. Biklen and Marilyn B. Brannigan and published by D. C. Heath and Company, 1980

- Management Training Needs of Minorities and Women: Publication Series by RBS. (See Enclosure)

I'm also enclosing a copy of an article, "Women Fight 'Old Boys' for School Administrator Jobs" from the March, 1980 edition of Learning. The "Resources" listed at the end of the article may be useful to you in examining the issues related to minorities and women in educational leadership.

If you have any other questions, please feel free to contact me.

Sincerely,

Tommye W. Casey
Research Associate,
Educational Equity

TWC/de
Enclosures

Nether Providence Middle School
Wallingford-Swarthmore School District
200 S. Providence Road
Wallingford, Pennsylvania 19086

TELEPHONE
(215) LOwell 6-9000

June 3, 1980

Tommye W. Casey
Research for Better Schools
444 N. Third St.
Philadelphia, PA 19123

Dear Ms. Casey:

I am writing in response to your search for women interested in research and development in education which appeared in Pennsylvania Education, May 19.

For the past several years, I have been interested in developing and marketing educational materials in the areas of social studies, history, careers, English, and gifted education. I have written for Social Education in the area of new approaches to teaching the geography of cities, and have recently developed and field tested a kit on the Middle Ages which begins with the barbarian invasions of Rome and ends with the rebuilding of cities. The unique topics and short primary source readings (including music, law, drama, the Eagle, Rome and the U.S., Medieval students, and medicine), games, and numerous and varied activities have made it a success with average and gifted students.

I am presently working in several other areas including history and the opera, space colonization, and creative anthropology; the last is being developed with one of my gifted seventh grade students.

I will be on leave next year, and hope to devote my energies to developing materials. If you could give me some ideas on how to go about marketing these materials, I would be very appreciative.

Thank you.

Sincerely,

Loretta M. Comfort

Loretta M. Comfort

Address after 6/13/80
321 Fulton St.
Philadelphia, PA 19147

August 7, 1980

Loretta M. Comfort
321 Fulton Street
Philadelphia, PA 19147

Dear Loretta:

Thanks so much for sharing with me your experiences in program development. One of the objectives of the RBS Minorities and Women Proejct is to provide technical assistance to minorities and women working in educational R&D. In response to your request for ideas on how to market your materials, I would suggest that you contact several small or intermediate size publishers in the tri-state area with information about your materials. This information should include a general description of your product, its general appeal, how it is formatted and data on its effectiveness. In order to identify small or intermediate size publishers in our area, you should either purchase or borrow from the public library the most recent edition of Literary Market Place published by R. R. Bowker Company. I hope that these suggestions will assist you in marketing your materials.

I have also enclosed a description of our project. If you have any further requests for assistance, please don't hesitate to contact me.

Sincerely,

Tommye W. Casey
Research Associate,
Educational Equity

TWC/de
enclosure

APPENDIX W

Examples of On-going Technical Assistance Correspondence

Joanne Frey
Resource Room Teacher
P. S. Willey Hall Smith
Beth., Pa. 18018

Tommye W. Casey
KOS
444 N. Third St.
Philadelphia, Pa. 19123

Dear Ms. Casey,

I am proposing a research project for my graduate studies and would like some suggestions or direction. My proposal is The Effects of Menses on classroom performance and/or Standardized Test Taking.

I would greatly appreciate any help you could supply in this area. I have been interested in this subject for years and would now like to see it come to fruition.

Sincerely yours,
Joanne Frey

June 6, 1980

Joanne Frey
Resource Room Teacher
153 Valley Park South
Beth., PA 18018

Dear Joanne:

The topic you have chosen "Effects of Menses on Classroom Performance and/or Standardized Test Taking" is one that concerns many women.

Enclosed is information which might point you in the right direction. Good luck with your topic.

Sincerely,

Pamela C. Rosen
Research Associate
Educational Equity

PCR/sjm

Enclosures:

RESEARCH FOR BETTER SCHOOLS, INCORPORATED SUITE 1700/1700 MARKET ST., PHILADELPHIA, PA. 19103/215 561-4100

June 19, 1980

Joanne Frey
Resource Room Teacher
153 Valley Park South
Bethlehem, Pennsylvania 18018

Dear Joanne:

I hope that the information I sent to you June 6 was helpful. Just today I saw a description of two publications which should provide you with additional information for your topic "Effects on Menses on Classroom Performance and/or Standardized Test Taking". Good luck!

Sincerely,

PCR/de

Pam Rosen
Research Associate,
Educational Equity

COPY

August 11, 1980

Joanne Frey
Resource Room Teacher
153 Valley Park South
Bethlehem, PA 18018

Dear Joanne:

I hope that the information sent on June 19, 1980 was helpful in researching your topic. Pam Rosen came across two instruments that might be useful to you in collecting data. These instruments were taken from Women and Women's Issues: Handbook of Tests and Measures by Carole A. Beere; San Francisco, CA: Jossey-Bass, Inc., 1979. They are enclosed along with a list of references from Feminine Personality and Conflict, edited by E. L. Walker.

Let us know how your research is progressing.

Sincerely,

Tommye W. Casey
Research Associate,
Educational Equity

TWC/de
Enclosures